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## Manufacturers' Record.

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BALTIMORE, OCTOBER 15, 1897.

All that the Manufacturers' Record has ever claimed for the South's iron and steel-making possibilities is more than sustained by the testimony of a number of noted experts, whose statements are presented in this issue of the Manufacturers' Record, and more especially by the elaborate report, the substance of which we publish exclusively today, made by a leading expert for some of the foremost steelmakers of Europe, who have been closely studying the South with a view to large investments there.

### The Armor-Plate Plant.

Though it has not even been decided that the government is to build its own armor-plate plant, the possibility of such an undertaking has provoked wide discussion and a keen rivalry of different localities to secure the industry. The South has not been laggard in this connection, and as the armor-plate board is to spend two days in Birmingham this week, it may not be amiss to direct the attention of the South to one or two important facts.

In the first place, it should be remembered that such an establishment in any part of the South would benefit the whole. That is so self-evident that it needs no comment. In the second place, the logical result of a contention among several cities over their respective opportunities as an inducement to the government, would be the building of the plant in another part of the country. In the third place, should the board select a site in the South, it would require the united efforts of all the South to induce the general government to follow the board's initiative.

Local patriotism, so called, explains the presence of so many Southern cities in the field of competition. That trait is most commendable when manifested in a reasonable manner. But it is useless for a city to imagine that it may secure something simply because it may desire it, without regard to anything else. In the case of the armor-plate plant, all the rhetoric in the world

poured forth at a meeting of a board of trade or chamber of commerce will have no effect if the city cannot show substantial reasons why it is the best location. But hardly a day passes without the claim of this or that locality being advanced, when there is not the slightest possibility of its being considered for a moment. Such manifestations of local enterprise and alertness are most gratifying. They should, however, be directed toward a practical end; such energies should be exerted toward the securing of possible industries, and any surplus might be expended in the development of the whole South.

At the mention of a project such as the armor-plate plant all cities should unite their endeavors in behalf of the locality which is manifestly the best for the purpose. It is no reflection upon the adaptability of other sections for other enterprises to suggest that the finger of fitness points unerringly to Alabama as the State which should be the home of the armor-plate plant, if it be established anywhere. To acknowledge this may cause one and another locality a momentary pang, but the feeling of disappointment will pass at the thought of the benefit to accrue to all the South. Alabama has long been regarded as the coming iron centre of the United States. Years ago Sir Lowthian Bell, regarded as a leader among metallurgical engineers of England, predicted that iron would be made cheaper there than anywhere else in the world. That fact is recalled in the current number of Cassier's Magazine, and at the same time are recalled the many incidents of the fulfilment of the prophecy, and also the recent achievements in steel.

As the armor-plate plant is intended for all time, wisdom would naturally build it in a region which is advancing, and not in one where the importance of steel-making is destined to decline. The region of the future in this line is Alabama. The whole South should realize that, and show forth its faith by its works.

### A National Task.

If any doubt of the national character of the Mississippi river and its tributaries exists, it did not appear at last week's session of the Western Waterways Convention, at Davenport, Ia. On the contrary, resolutions were adopted in evidence of the fact that the regulation of the great system which drains nearly 1,500,000 square miles is regarded as a great national task.

The convention held that the Mississippi river, with its 15,000 miles of navigable tributaries, are especially deserving of the consideration of the national government, that they should be improved and controlled in the interests of producers and consumers, that liberal appropriations should be made, that the reservoir system at headwaters for the double purpose of restraining floods in the spring and pre-

venting low water in summer should be extended, that the channel in the South Pass, at the mouth of the Mississippi, be widened and deepened, and that the Southwest Pass be improved.

In spite of the work which has been done by the government, experience teaches that it has been inadequate. The prime cause of this is a failure on the part of lawmakers, and even some of those persons who are directly interested in having the work done, once for all, to recognize the necessity for the national government to assume charge of the whole undertaking, to adopt a wide-gauge policy of improvement and to appropriate a sufficient sum to complete the work at once.

Promptness and liberality will prevent delay and waste in the end. These are the desires of representatives of Arkansas, Iowa, Illinois, Louisiana, Minnesota, Missouri, Mississippi, Pennsylvania, Tennessee and Texas, who were at Davenport. Their wishes should have weight with the Senate committee which is charged to report on the subject when Congress assembles this winter.

Millions of dollars have been expended already upon a piecemeal plan. Much of this sum has been lost because of the plan. The piecemeal treatment should be changed to the national one.

### On Southern Labor.

Two or three of our Northern friends seem to be in a perpetual state of mind about Southern labor. They approach it from different directions, but all of them manifest the deepest solicitude in one way and another. The New York Herald, for instance, objects to the location of a government armor plant in the South because the proposed sites do not appeal to steel-workers reared in the North, and it fears that the result would be an importation of foreign mechanics or delays and losses inherent in unskilled production.

This is so thoughtful on the part of the Herald. There should be a stop to the unvarying practice of the South during the past hundred years of importing foreign mechanics and laborers. It is amazing that it will employ Huns, Poles and Slavs in its coal mines, Irish in municipal works and French Canadians in its mills, leaving the North to employ only Anglo-Saxon Americans in its industries. It should see the advantages in cultivating the plan of Homestead, Hazleton and other centres which reduce the militia of the North to a matter of mere fuss, feathers and holiday fan fare.

The North, at least a part of it, is afraid that such conditions in the South will end in serious trouble. Thus the New York Mail and Express, which never loses an opportunity to express admiration for Southern civilization in general and to tender kind advice in particular, taking the employment of negroes in mills as a text, said not long since:

The negro cannot be eliminated, and he will not be ignored. His progress means the

progress of the South, the minimizing of pauperism and the decrease of crime. This the South, if it is wise, will recognize now. Instead of waiting till riot and bloodshed have reopened healing wounds and rendered capital timid and insecure. Instead of seeking to accomplish the impossible task of shutting the factory door against the negro, the Southern workman should aim to teach him that his labor is worth as much as the white man's under similar conditions.

This is another case of sympathy like that suggested to the West Virginia miners in the recent strike for the benefit of their Northern competitors. Weight is added to it because of the notorious efforts made by papers of the stripe of the Mail and Express to advance the cause of labor, and particularly negro labor, in the North. Everybody knows that the negro employee has unrivalled opportunities for employment in the North, and that wide-armed philanthropy has always taken the initiative in improving the condition of Northern workmen.

That philanthropy breathes through the recent address of Mr. Curtis Guild, Jr., of Boston, Mass., in which he discussed the competition of Southern mills with those of New England. He seemed to find the chief advantage of the South in its cheap labor. Summing it up, he said:

Now we cannot grow cotton in New England; neither can we make local taxation of mill property uniform; neither can we force the Southern cotton operative to strike for higher wages if he is content to work for his present remuneration. There are two things, however, that legislation can accomplish—it can make a national regulation of the age of labor; it can make a national regulation of the hours of labor.

Mr. Guild has, from force of habit, looked to national legislation to maintain New England supremacy. But why does he take such a roundabout course? He may not secure national legislation compelling Southern operatives to strike, even though they may be content to work for present remuneration, but why does he not attempt a national law for the cultivation of cotton in New England, or one for the uniform taxation of mill property?

Who says that the average American is lacking in a sense of humor?

### Combining for a Community.

The Watauga Club, of Raleigh, which at one time was an active factor in the State, but which has been quiescent for a while, intends to revive its work for the promotion of the material interests of North Carolina. The renewal of its energies is to be emphasized by a banquet at Raleigh next Tuesday night, when well-known speakers from home and abroad will discuss topics of an industrial and developmental character. The assumption upon which the club acts is that there is in the community a lack of accurate and practical information about economic questions, and its purpose is to popularize such knowledge and have it applied.

Raleigh is not peculiar in being capable of deriving much benefit from



such an organization. There are many social clubs in the South, and there are business bodies, but the combination of business and social instincts for the betterment of the community is frequently lacking. The example of Raleigh should be followed. There is need of more Watauga Clubs in the South.

Among the resolutions adopted last week at a meeting of Southern commercial clubs at Nashville, Tenn., were these:

That it has been demonstrated by actual experience, which can easily be verified by investigation, that the iron and steel needed by the government for such armor plate and for other needs of its service, can be produced in the South more cheaply than anywhere else in the United States.

That all commercial bodies of the South are hereby earnestly requested to impress on their respective members of Congress to use their best endeavors to locate the said armor-plate plant at the most economical and eligible point in the South for the manufacture of such armor plate.

There is a platform upon which the whole South should unite.

Elsewhere in the Manufacturers' Record is published a letter by Mr. F. H. Richardson, a distinguished journalist of Atlanta, setting forth an interesting statement of the conditions and possibilities of the Georgia gold region. It suggests that the Alaska craze should not divert men's minds from opportunities nearer home.

#### Plans Wanted for \$1,500,000 Capitol.

Architects are invited to prepare and submit plans for the new capitol building which the United States of Mexico intends building at the City of Mexico.

Specifications are now in the hands of the government's representatives in foreign countries, and will be forwarded, on application, to those interested.

Estimates on the cost of the structure must not exceed \$1,500,000.

The author of the plans to which first place is awarded will receive a premium of \$15,000 (Mexican silver); second place and third place \$6000 (Mexican silver), to be divided proportionately as decided hereafter, and fourth and fifth places will receive gold and silver medals, respectively, and each \$500 (Mexican silver) for expenses.

For further particulars address Senor M. Romero, Mexican Minister to the United States, Washington, D. C.

#### An 800-Barrel Flour Mill.

Announcements have been made that ensure to Atlanta, Ga., the establishment of one of the largest flour mills in the Southern States. The Sweetwater Milling Co., of Sweetwater, Tenn., will build it, and site has been purchased. It is proposed to erect and equip a mill of 800 barrels daily capacity, installing the most modern and improved processes of manufacturing flour, and operations are expected to commence by May 1, 1898. The company has had a number of years' experience in the manufacture of the staple, and will use every endeavor to compete for the Southern trade, of which it already has a good part, with the great mills of the cereal milling centres in the West. Mr. W. L. Hubbard is the Atlanta representative of the Sweetwater Company.

By direction of Congress, the Department of Agriculture is investigating the character and extent of the adulteration of foods and drugs. A circular has been issued by A. J. Wedderburn, special agent, requesting that any information on the subject be sent to the chemical division of the department.

## SOUTHERN IRON AND STEEL MAKING.

Much has been said and written about Alabama as the future centre of the iron and steel industry of this country. American and European experts have studied the field carefully with a view to possibilities, and much of the general opinion may be summarized in the words of Mr. William Colquhoun, of Cardiff, who in a report to the British Iron and Steel Institute says:

"To fully appreciate the position and future of the South we have to imagine a coalfield yielding ten times as much coal as the whole of the United Kingdom, unmeasured deposits of iron ores, \* \* \* that the cost of long distance railway carriage is one farthing per ton per mile, and that the bulk of the produce of pig iron is already delivered to the Northern district.

"Having those things in our minds, we can arrive at no other conclusion than that in the future the Southern district will develop an export trade which will hit the United Kingdom more severely than any other competition has done. Our 4,000,000 tons of coal exported to South America, the East and West Indies and China will fall away to nothing. We cannot hope to compete in the future railroad development of those countries, and the close trade connection between the States and Australia will slowly strengthen.

"The Southern States, therefore, induce an interest not entirely due to the wealth of their mineral resources, but to the fact that they will be in the future our keenest competitors. They will compete, too, with the Northern States, where the growing cost of production, the failure of the natural gas and the hopelessness of ever conceiving an export trade combine to render that district less aggressive."

More recently the Birmingham region has been carefully studied by Dr. F. W. Ihne, a distinguished mining and metallurgical engineer of Chicago, and president of the Chicago Polytechnic Institute, on behalf of foreign capitalists, as announced a few weeks ago in the Manufacturers' Record. The Manufacturers' Record has been fortunate enough to secure an exclusive translation of his report, and as the coming visit to Birmingham of the armor-plate-plant board makes every authoritative opinion about steel-making in the South of particular interest, some extracts from the report are published. For years Dr. Ihne has held the opinion that the South is the most favorable portion of the United States for the location of a great steel plant, having its own coal and iron ore to transform into pig iron suitable for steel-making; and which would also further manufacture a part of its output into finished products. He says in his report:

"Nature has side by side with good coking coals deposited an almost inexhaustible treasure of good iron ore, which, though not serviceable for the Bessemer process, owing to its contents of phosphorus, still will produce excellent cast iron and good pig iron for puddling purposes, and also material serviceable for the basic open-hearth process, as it also proved by the large shipments of pig iron from the Birmingham furnaces to the steel works of Carnegie and the Illinois Steel Co.

"If what I state above would seem to be inconsistent with the fact that Birmingham pig iron at one time enjoyed a rather uncertain reputation in regard to quality, I have to insist on the contrary. Formerly this reproach may have been justifiable, but it is today entirely inapplicable. In this iron district thirty

years ago there existed not a single blast furnace, and some twenty years ago nothing but woods and cotton-fields could be seen. Here has sprung up the flourishing iron city of Birmingham, the metropolis of the important Southern iron industry. But at first the coals destined for coking were not washed. Since this has been done and more scientific attention has been paid to the blast-furnace process, a grade of pig iron is produced there with the quality of which no fault can justly be found.

"The Birmingham district also contains excellent limestone, fire-clay, pure quartz, molding sand, and also at a moderate distance from the furnaces excellent brown iron ores in extensive deposits, which are extremely valuable for mixing purposes, as will also be excellent manganese ores of greater or less richness of iron, and Birmingham further enjoys good and cheap labor in abundance."

Dr. Ihne touches upon all the conditions and reasons which make it possible for this district to produce a pig iron which is also well adapted for steel-making at lower cost than any other region in America, and after a minute description of the particular territory which he was requested to study he states that the red hematite ores of Alabama, both alone, or better still, together with the brown and manganese ores that are found there will produce a pig iron adapted for steel-making, and adds:

"On my last visit to Birmingham I learned from the shipping books of furnace companies and other authentic sources that large quantities of low silicon pig ore are being continuously shipped to the steel works of Carnegie and the Illinois Steel Co. I arrived at one furnace just as the last carloads of a shipment of 750 tons of such iron for another steel works in Philadelphia were being loaded. On each of the stacks of pig iron from which they were loading were some pigs marked with the contents of the iron in the stack, and thousands of tons were marked as follows: Si. 0.5, S. 0.03, P. 0.67; Si. 0.6, S. 0.036, P. 0.7; Si. 0.79, S. 0.036, P. 0.75, and so on. All the stacks marked in this manner were destined to be shipped to steel works, and only a short time previously lots of 500 tons each had been sent to Genoa, Rotterdam and Calcutta, respectively. Whenever the contents of silicon is less than 1 per cent. the pig iron is gladly accepted, and as a matter of fact the contents of the iron sent to the steel works varies from 0.12 per cent. to 0.85 per cent. in silicon; from 0.030 to 0.039 in sulphur, and from 0.65 to 0.75 in phosphorus. It would not be difficult for the furnaces that are engaged in the production of iron adapted for steel-making to see that its contents in silicon should not exceed from 0.10 per cent. to 0.12 per cent., but still they have a more profitable run and are easier to regulate when maintaining the percentage at between 0.50 to 1 per cent., which also is fully satisfactory for the open-hearth process.

"While at Birmingham I took a look at the working of a furnace in blast. With ninety charges a day it produces 180 tons of pig iron, and on the average the charges are composed as follows:

Red hematite ore, without lime...	2,150 lbs.
Red hematite ore, containing lime...	6,400 lbs.
Brown iron ore.....	2,150 lbs.
Limestone .....	2,100 lbs.
Coke .....	5,500 lbs.

18,300 lbs.

"The coke here used has been somewhat insufficiently washed, as it still contains from 9 to 11 per cent. ash; also

quartz ore very low in iron has been used (the total result in iron only amounts to 37 per cent.), and yet the total cost of producing this iron is only a little over \$6 per gross ton.

"In conversation the gentleman in charge of the furnace making the pig iron adapted for steel-making explained that he could produce the same iron also from red hematite ore alone, but an addition of brown iron ore was preferable, which I can understand, and I only wonder that all the furnaces do not use in addition also the fine brown ore.

"Having in mind the splendid magnetic iron ore of Cranberry and vicinity, which is almost entirely free from phosphorus, I have formerly been of the opinion that it should be possible to find a location close to good coking coal where this beautiful ore could be worked into steel through the acid Bessemer process. Unfortunately, however, no place seems to exist in the mountains of North Carolina, Kentucky, etc., near to the coal and the iron ore where such a plant could be erected with all the described advantages, which at the same time would have the world's market within easy reach. After having now for years been carefully weighing all the conditions of the localities considered in this connection, I have had no reason to change my opinion that the Southern States offer the most favorable conditions for it, but have, on the contrary, been strengthened in this conviction by the concentration and absorption under one head of all the iron production of the North which has long been prepared, and which has now become a fact, as well as by other things. I have, however, come to the conclusion that it is best no longer to look for a location adapted for the Bessemer process, but to seek a location where good open-hearth steel can be cheaply made, and from which the products can be laid down cheaply in the world's market."

Another point made by Dr. Ihne is worthy of reproduction. He says:

"There are many who do not regard the colored laborers as a desirable element of the furnace and mining industry. Those who hold this opinion, however, do not know the negro of the South. \* \* \* The colored laborer of the South is obedient, pliable, easily satisfied, loyal and faithful; he works at from seventy-five cents to \$1 a day, and performs almost as much as a white man would at from \$1.50 to \$2, and he rarely joins a 'union.' I speak from my own experience when I say that for much mining and factory work I wish for no better laborer than the Southern negro, and my visit to the Birmingham district only confirmed this view. The large majority of the workmen in the mines, furnaces and foundries there are colored men, who work either separately or together with whites, and the only place where they are not employed are the rolling mills. And they are employed not only at subordinate work requiring no particular ability, quickness of mind or trustworthiness, but also at work which presupposes a high degree of all these qualities. In and about Birmingham I found negroes as weighmasters, stationary engineers, furnace overseers of coal-washing and other similar responsible positions, and I have never heard that the poor negroes should be poorer workmen than the whites. The fact that the South is able to produce pig iron and products thereof cheaper is due not only to the close proximity in which its rich iron ore, coal and limestone deposits are occurring, but also to a great extent to its cheap and quiet laboring population. "In order to procure and retain a suffi-



cient stock of white laborers it is only necessary to build a sufficient number of small attractive residences, with a small garden, to be rented or sold on easy terms to the workmen. Hundreds of capable workers, experienced in the iron and steel industry, will gladly avail themselves of this opportunity to acquire a pleasant home in a healthy locality where an immediate income and permanent work can be secured, just as was the case in the 'Bergeshe Land,' the famous steel district of the Prussian Rhine province when the industry was started there."

Dr. Ihne claims that pig iron can be made in the Birmingham district at \$5.75 a ton, and practically sustains every claim for the iron and steel-making possibilities of that section ever advanced by the Manufacturers' Record. In summing up the advantages of the South for this industry, with particular reference to the point in the United States "best adapted for the establishment of a large iron and steel plant," Dr. Ihne quotes from a number of others, and says:

"I will, however, first quote the opinion of one of the first iron men of Great Britain, Sir James Kitson, president of the 'Iron and Steel Institute,' of England, confirming what I have already said about the importance and superior competitive capacity of the district in question—an opinion which he formed in full accord with the famous Sir Lowthian Bell, and which he published after having in September and October, 1890, visited and carefully studied all the iron districts of America and their resources, accompanied by about 300 members of his society and about 150 members of the 'Verein Deutscher Eisenhütten Leute,' in company of American experts.

"The opinions of these two authorities, and, in fact, I presume of all the participants in the trip, find expression, among others, in the following words: 'With regard to an export trade in iron from the United States, \* \* \* if we are to meet American ore in Europe, Asia or Australia, it will be that produced in the Southern States of the Union. A railway journey of 250 miles will bring the produce of Birmingham to Mobile or Pensacola, on the Gulf.'

"Another eminent member of the same investigating tour, Mr. William Colquhoun, of Cardiff, England, says in the report of the Iron and Steel Institute: 'The Southern group has Birmingham, Ala., for its centre. Two hundred miles in every direction lie extraordinary deposits, the wealth of which is as yet but half known.'

"My own friend, Mr. R. Hunt, who is so familiar with iron and steel matters, and manager of the famous charcoal iron furnace of Ashland, said in 1895 at an occasion when speaking of the future of the American iron and steel industry, about the following: 'The manufacture of charcoal iron in the United States, with very few exceptions, has become a thing of the past, and the principal region for making cheap but good iron and steel in our country will be in the South.'

"At another place in this report Mr. Colquhoun says: 'The town of Birmingham, Ala., is the natural centre of the group of States which are so distinguished for their mineral wealth, viz., Alabama, Georgia, Tennessee, Virginia, Kentucky, and other more distant and not so fully developed. The Birmingham district proper can communicate both by river and railways with the ports of Mobile and Pensacola, on the Gulf, 270 miles distant, and with New Orleans, Savannah and Charleston, 350 to 400 miles distant. From Cincinnati it lies 476 miles, and from Chicago and Pittsburgh about double that distance.'

"Another gentleman who is thoroughly familiar with the iron and steel production of the United States, Mr. Richard H. Edmonds, editor of the Manufacturers' Record, of Baltimore, says in a publication of 1894, among other things, the following: 'Nowhere else in the world, it is believed, are the natural conditions as favorable for the production of iron and steel on the largest scale that the increasing consumption demands, and at the lowest cost. Less than ten years ago the foremost iron-makers and many of the leading journals of the North honestly believed that the South could never compete with Pennsylvania in the making of pig iron. They believed this because they had never investigated the combination of advantages for iron-making which the South possesses. When Alabama first commenced to ship pig iron into the Northern markets it was persistently claimed by those whose iron was displaced that it would only be a question of a few months before these shipments would cease, because, according to their view, there was a loss on every ton. As months passed into years, and the Southern iron-maker showed no disposition either to abandon his Northern trade or to fail by reason of the supposed losses on it, public sentiment commenced to change. Here and there was found a man who had investigated the foundation on which the Southern iron interests were building, and who saw that it was neither speculation nor town-lot booming.'

"At another place he spoke of the conditions of sale and export of the nearest future as they depend on natural conditions, as well as of the great influence that the completion of the Nicaragua canal will of necessity have on the world's commerce in favor of the South, and says:

"The world's commerce and shipping will centre in the Gulf of Mexico and at South Atlantic ports to a degree that can scarcely be comprehended now. Then wealth will be created, large cities will grow up, coal mines will be developed, iron and steel works built, and shipyards established on a scale little dreamed of now.'"

#### MILLS AT AUGUSTA.

##### Effects of Competitive Demand for Cotton Upon the Market.

[Special Cor. Manufacturers' Record.]

Augusta, Ga., October 11.

Augusta's cotton receipts last year reached the unprecedented figure of 300,000 bales, an increase of 100,000 bales over the average receipts of the past few years. This large increase was due to the growing recognition of this market as one of competitive demand, created by the large assembly of local mills bidding against foreign buyers. To this cause must be added the fact that Augusta enjoys the lowest freight rates, both east and west, of any inland city of the South Atlantic States, and the competition between the five neighboring ports on the coast keep this market above all others in this section and ensure a ready demand at all times for grades that are unsalable elsewhere. Notwithstanding the big receipts, the stock on hand was reduced so low at times that some of the largest mills in this district were forced to run on hand-to-mouth rations. To meet the requirements of this season's business, a new compress has been constructed on the river front, making three in all, located in different parts of the city, together with three large standard fire-proof warehouses, in Cotton Row, convenient to both rail and river. The indications are that a full crop has been made in this territory, and, while it is

three weeks behind on the gathering, the receipts are even with last year for the same time, and it is confidently predicted that they will go to 400,000 before the season is over. Already there is talk of a mammoth co-operative warehouse and another compress, to handle next year's crop.

The big building constituting the third extension of the John P. King Manufacturing Co. is about complete and ready for the machinery. It will add 800 looms and 20,000 spindles to the capacity of the King, making it one of the largest mills in the South. It will be equipped with Whittin looms and Saco Machine Co.'s spinning frames. It is driven by two horizontal McCormick turbines, made by the S. Morgan Smith Co., York, Pa., capable of developing 2700 horse-power. They run smoothly and noiselessly, and give perfect satisfaction. The Augusta Factory has recently put in two of the same kind, from which I get the same report. The other adjuncts to the King had been provided, such as the land, warehouses, etc., so that the outlay of the stockholders only amounted to \$13 per spindle for the extension. President Charles Easter is to be congratulated on his phenomenal success in the management of the big works.

The Newlin Manufacturing Co., that has recently applied for a charter, proposes to build a plant and manufacture its patent fuel-savers and smoke-consumers. Their experiments in the various mills have proved eminently satisfactory.

President E. F. Verdery, of the Warren Manufacturing Co., of Aiken county, S. C., has established offices in this city. The mill has reached the fourth story, and soon will be ready for roofing in. It will be a 30,000-spindle mill, and will be the first to make prints and use steam in the Augusta district. It will be a modern mill throughout.

It is rumored that the Aiken Manufacturing Co. contemplates, as soon as its enlargement is completed, putting up No. 2, a duplicate mill to No. 1.

Augusta has advertised for bids for new water works. The specifications include a reservoir of 50,000,000 gallons capacity, filter plant of 6,000,000, pumping machinery, with turbines, flumes and draft tubes, 5800 tons of cast-iron pipe and specials, 18,700 lineal feet of 30-inch steel riveted pipe, pumping station, filter-house, pipe-laying, foundations, etc.

HENRY P. MOORE.

#### Industrial News from Birmingham.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., October 12.

The iron market has settled down into a state of quietude without losing any of its strength. This quiescent state, after the excitement that has characterized it, was to be expected. Quotations are unchanged, and no transactions are reported at figures less than open quotations. For reasons given in previous letters furnaces are indifferent sellers, and when a buyer enters the market he finds little or no competition between sellers. Shipments continue on a liberal scale, and would be greater if there was less difficulty in procuring cars. The railroads are worrying over the delay in return of cars that go into the quarantined districts. No uniform regulations exist. Each locality has its regulations in accordance with the ideas prevailing with them, and sticks to them. The consequence is hundreds of cars are lying idle that are needed to move the products of this district. The injury to the railroads and the shippers is very appreciable, and the inconvenience is great. It makes business fitful and unsatisfactory. But even with this to contend with, shipments

have been heavy enough to largely decrease stock in yards. On May 1 of the current year the leading interest here had in yards a stock of 162,000 tons of iron. At the close of business the past week they had a stock of 63,000 tons. This diminution forcibly shows the movement in iron, for one must not lose sight of the fact that the furnaces have been turning out the usual amount during this time. The outlook for a further reduction is very favorable, and everything indicates that we will commence the year of 1898 with less iron on hand than for a long time past.

Mining operations are being conducted on a scale greater than has ever heretofore obtained, and there is a life and vim in them that indicates faith in the continued growth of prosperity. The export trade, in the present condition of things, could not be expected to show up in any volume, and it is only of moderate extent. As soon as quarantine restrictions are removed or relaxed we can expect to see a revivification in that branch of the trade. But nothing of importance in it can occur till then.

At Bessemer the Howard-Harrison Pipe Works has all four of its pits in use, and are busily occupied. The combination, in which it is reported that both Bessemer and Chattanooga were interested, failed to secure the Chicago contract for 35,000 tons of pipe, but they came in a good second. The successful bidders were only four cents per ton under them. The Anniston Pipe Works and the Addiston Co., near Cincinnati, drew the prize.

It is learned from good authority that the Sloss Company is so well pleased with the great blowing engine in use at its city furnaces that it has about determined to add another of equal efficiency and approximate capacity. It is open to conviction as to the merits of the various makes. In the Alabama gold district the field is being slowly occupied. The results are said to be very satisfactory. The miner who is prudent cannot fail to do well there. An option has been given by the Birmingham owner to Eastern parties on some graphite property in Clay county, showing that interest in this class of investments is being aroused. At a meeting of the city council the projectors of the new water-works company were granted their petition, thus securing in due time another supply of water and guaranteeing a cost in which the consumer shall have a say. Capitalists in the Northwest will furnish the necessary funds to finance the new company.

The rolling mills continue to be very active, and anticipate a rush of business when the fever scare subsides. Both furnaces are now in use at the steel mill, and the daily output is about 100 tons, which is less than full capacity. The quality of the output is declared but a continuance of that first turned out, and it is satisfactory in every respect.

The minor industries present no new features. General miscellaneous work is sufficient, as yet, to keep them all employed. At the Hood Machine Co. there was a fire the past week, which destroyed part of the roof of the main building. A few hundred dollars will cover the loss, and there was no interruption to its business.

J. M. K.

A dispatch from Savannah, Ga., announces that the Millen & Southern Railroad has been sold to E. D. Baldwin, of Savannah. It is understood that the sale was made in the interest of another railroad company. The Millen & Southern Railroad is thirty-two miles long, extending between Millen and Stillmore, where it connects with the Central Railway of Georgia.



**GOLD MINING IN GEORGIA.****Extent of the Operations in Progress and Projected.**

[Special Cor. Manufacturers' Record.]

Atlanta, Ga., October 11.

Never before has the search for gold been so keen or so general as it is now. Never before has the earth yielded this precious treasure so generously or from so many sources. The argonaut is now almost ubiquitous. There is no continent on which he is not prosecuting his searches, and he is sailing almost every sea to reach some land which he believes holds stores of the yellow metal for which men have striven and struggled since civilization began.

From the Yukon to the Rand, from Siberia to Peru, from the hills of our Southern States to the wilds of Australia the gold-seeker plies his trade and builds his castles of expectation.

Under these conditions it is not strange that the region in the greatest of all gold-producing countries, where the mining of gold was first found profitable, and where vast deposits of gold are known to exist, should at the present time be the scene of unwonted activity both in operation and prospecting.

The sensational discoveries in Alaska have not diverted attention from Georgia as a promising field for gold-mining. In fact, there are more gold-seekers in this State and more gold is being actually produced now than a year ago, and I have the best authority for saying that more gold mines are being worked in Georgia today and at a better profit in the aggregate than ever before.

The production of gold in Georgia by men little skilled in the business, and under methods which wasted more than they saved, went above \$500,000 in 1848, and this was taken from what is now known to be only a small part of the gold region of the State. But romantic and interesting as the past is, the present condition and prospects of gold-mining in Georgia interests us still more.

Prof. S. W. McCallie, assistant State geologist, has prepared a map showing the ascertained and well-defined gold regions of the State—that is to say, those parts of Georgia in which gold has been found and worked in paying quantities. To him I am indebted for many of the facts I shall present in the further course of this article.

Georgia's possession of gold in such large quantities is due to the fact that into her territory passes the Appalachian range, which, extending from Nova Scotia to Alabama, bears in its bosom almost through its entire length rich stores of gold in greater or less abundance. This range enters Georgia at its northeastern corner and runs in a southwesterly direction to the Alabama line. The gold region of Georgia, however, is not all mountainous. The bulk of the gold mined in this State has been taken from the counties of Northeast Georgia which are traversed by mountain ranges, but in the gently undulating country to the southwest of that part of the State and in several counties of Eastern Georgia some of the most valuable gold properties of the State are found. There are, in fact, three well-defined gold belts in the State. The greater part of the gold that has hitherto been found in Georgia is in what are known as the "Dahlonga" and "Hall County" belts. The former belt is much more extensive than the latter. It makes its first appearance in Rabun county near the North Carolina line, and extends clear across the State in a southwesterly direction, passing into Alabama about the centre of Haralson county. In every county which this

well-defined gold belt traverses the mining of gold has been successfully carried on for greater or less periods.

In Rabun county placer deposits have been worked at big profit at both the "Smith" and the "Moore Girls" mines. White county, through which the belt in question next passes, has been very prolific in gold. The Calhoun, a placer mine in this county, has been worked off and on for sixty years, and it is estimated that it has yielded at least \$750,000 of gold. This mine is still being operated, and recently improved machinery has been introduced there.

At the Hamby Mountain mine, only a few miles distant, the largest nugget of fine gold ever found in Georgia was picked up about twenty years ago. It weighed 504 pennyweight, or more than two pounds troy. Within a few feet of where this nugget was found a rich pocket of gold was opened and over \$10,000 worth taken out. The Hamby mine is now being operated on modern principles. The company has a 20-stamp mill, a main ditch thirteen miles long, and altogether twenty-five miles of canals, pipe and flumes. A large investment has been made at this mine, but the owners are confident, and recently two Northern capitalists have purchased a large interest in their property.

The Calhoun mine, in Nacoochee valley, is being worked night and day by the Yonah Gold Mining Co. Some remarkable work is recorded in the history of this mine. Mr. Jesse Lumsden, who owned the property for years and often worked it, once got out 1200 pennyweight with two men in one day. One day he found a nugget weighing 341 pennyweight, and the next morning picked up one nearly as large. Mr. Lumsden and his brother worked this mine for a while in 1880, and in two months, with only two men employed, took out gold to the value of \$3500. Their equipment was not even up to the best standard of that period.

Col. L. N. Trammell, chairman of the Georgia railroad commission, recently sold what is known as Lot No. 10, in White county, to a Northern company for \$8500. It is a 250-acre lot, and rich deposits are said to have been found on it.

The Plattsburg mine will soon be reopened, and the St. George, nearby, has ten stamps working night and day.

One of the oldest mines in the State, the Thurmond, has recently been examined by prospectors from Detroit, and it is reported that operations will soon begin there.

Four or five other gold properties in White county have also been inspected within the last few weeks, and negotiations for the purchase of two of them are now pending.

Lumpkin county adjoins White, and its hills have yielded the greater part of the gold that Georgia has produced. Over \$600,000 has been expended in bringing water from mountain streams to the mines in this county, and several of them are now being operated very profitably.

The Dahlonga gold belt passes on through Dawson, Cherokee, Paulding and Haralson counties. Dawson county is known to be rich in gold ores, but at present little development is in progress there. In Cherokee the largest and most profitable gold mine in Georgia is in operation. It was known for years as the Creighton, but is now the Franklin, operated by a company with abundant capital, and is the deepest gold mine in the State, a depth of nearly 500 feet having been reached. The company keeps its business very close, but some idea of the value of its property may be gathered from the well-authenticated statement that two years

ago \$1,000,000 was offered for its property and was refused.

Paulding is the next county through which the Dahlonga gold belt passes, but there is little development there. Next, and last in Georgia, comes Haralson county. In this county the enterprising town of Tallapoosa is situated, and near it lie some of the best gold lands in the State. The Royal mine, one of the most important in the State, is in Haralson county, and is now being operated by a company which has unbounded faith in its property. A gold bar, embodying the product of this mine for the month of June, 1897, was recently exhibited in Atlanta and attracted much attention. It was worth \$3200.

The Hall county gold belt, like the Dahlonga, starts in Rabun county, and, passing through Habersham, Hall, Gwinnett, Milton and De Kalb counties, ends in Fulton, near Atlanta. While there are few mines in this belt, rich discoveries have been made at several points, and the presence of great quantities of gold in the belt has been demonstrated. There is a third well-defined gold belt in Georgia, which, though shorter than the Hall belt, has been developed much more and contains some of the best-known gold properties in the State. It begins in Cherokee, very near the Dahlonga belt, and passes diagonally to the southwest, through the counties of Cobb, Paulding, Douglass, Carroll and Heard. The best development yet had in this belt is at Villa Rica, in Carroll county, where gold was mined before the war, and where there are two mines now in operation, each with twenty stamps and both backed by English capital.

Of these three belts the Dahlonga, so far as present evidence goes, is the most important. It extends in Georgia about 150 miles, and in width varies from one to five miles.

A fourth division of gold mines in Georgia is an extension of the main gold belt of South Carolina, and runs through the counties of Lincoln, McDuffie, Columbia and Warren. In McDuffie county the famous Walker mine is situated. It has been worked continuously for twenty years. Ten years ago its owner, Mr. J. B. Smith, died, and since that time his plucky wife has kept up the operations at the mine with even greater success than her husband achieved. She is a practical miner, puts on her boots every day and goes down the 250-foot shaft to direct the work, which is carried on by about twenty miners. This mine has produced the means for the education of a large family of children and placed a big balance in bank to the credit of the Smith family, besides affording the money to purchase several thousand acres of valuable land. Mrs. Smith is very conservative, and works the mine just as her husband did before the methods of scientific gold-mining were revolutionized.

Gold deposits have been found in tempting quantities outside of all the belts named in the counties of Towns, Union, Fannin, Gilmer, Bartow and Meriwether.

Great prospects are now held out for the Glade mine, three miles from Alatoona, in Bartow county. Last spring an English company, with a capital of £100,000 and incorporated as the Southern States Gold Fields Development Co., purchased this property, and is now working it for all it is worth. A mine, long abandoned, near this property, was recently opened, and before the machinery was in operation an offer of \$100,000 cash, made by a company of Ohio capitalists for it, was refused.

There were never before so many gold mines being worked in Georgia, and prospecting parties are to be found in every

part of Georgia's gold regions. The English, those inveterate and indefatigable seekers for gold, are already in Georgia, and every few days we hear that a new party of them have arrived to look for the precious metal or to make offers for mines already discovered.

An immense value has been added to the gold mines of this State by the discovery of the process of working sulphuretted and low-grade ores, a discovery made by a modest little German, who refused to patent it, a man named Theis, who is now superintendent of the Haile mine, in South Carolina, the most profitable gold mine in the South and one of the best in the United States. There is no gold mine in Georgia where the dirt does not assay above \$10 a ton, so far as it has been worked, and by the chlorination process which Theis introduced gold mining is made profitable when \$3 a ton can be extracted from a mine. The average in South Africa is not over \$6 a ton, and there they have gone 2000 feet, while in Georgia the deepest mine is hardly 500 feet below the surface, and most of them are mere scratches on the surface.

F. H. RICHARDSON.

**A GREAT NATIONAL QUESTION.****The Expansion of the American Coal Trade.**

An interesting and valuable pamphlet, under the title of "A Great National Question," dealing with the expansion of the coal trade of the United States, has been written by Gen. Joseph W. Burke, of Jacksonville, Ala. His object is to show the extent and value of the Great Warrior coalfields in Alabama, the splendid character of its products, the diversity and richness of its seams, its contiguity to the Gulf of Mexico and its intimate relations with anticipated great national developments.

The subject is one of absorbing interest, and treated in a plain practical manner by one who is perfectly familiar with the matters which he discusses, and absolutely reliable in statement.

The great strides made in the development of the Southern coal trade, especially within the last decade, makes anything relating to this subject exceedingly interesting at the present time. The movement made by the Southern Railway in establishing a line of well-equipped tugs and barges from Greenville, Miss., to New Orleans and all points below on the great river, by which the splendid hard bituminous coals of the Warrior coalfields in Alabama are brought into successful competition with Pennsylvania and West Virginia coal, is one of the most significant signs of Southern development.

Ten years ago this would have been regarded as chimerical, yet it is already beyond the experimental stage, increasing, thriving, expanding, with tolerable certainty of permanence and success. In other words, it has come to stay. Geographical conditions, temperature, the seasons, physical advantages largely preponderate in its favor, and in due course of time Alabama coal will follow in the triumphant footsteps of Alabama iron.

Mr. Burke's pamphlet treats of a still more interesting subject—the exportation of American coal, and if but one-half of the facts he states are capable of demonstration the exportation of Alabama coal by the Warrior and Alabama rivers and the Bay of Mobile is as certain in coming time as any probability founded on reason and necessity. Speaking of the enormous coal trade of the Gulf of Mexico, Central and South America, the writer says:

"The problem of supplying the Gulf of



Mexico, the West Indies, Central and South America, the Isthmus of Panama and the Nicaragua canal with cheap coal of good quality must be solved in the present day and generation. The great increase of domestic manufactures, of railroads, steam vessels and the manufacture of iron, has steadily kept pace with the production of bituminous coal in the United States, and the home demand, constantly increasing, has until late years been fully equal to the capacity of the mines.

"It is only of late years that the existence of coal in Alabama has been brought into general public notice. It is a marvel to practical men how, for years, Pennsylvania sent her coal 1000 miles to the Gulf, and England carried it over 4000 miles of ocean to supply our Gulf and Atlantic seacoast cities and town, whilst within 300 miles of the tide, right within the heart of our own domains, there existed nearly 6000 square miles of coal, equal in all points of excellence to that of the Northern bituminous fields, and superior in many respects to the British article."

After alluding to the geological structure of the Great Warrior basins, General Burke enters into a most interesting description of what he terms "the most productive coalfield in the civilized world." This statement seems to be founded on very high authority, and, considering the comparatively short distance by water to the Gulf of Mexico, it becomes indeed a national question of the greatest interest and importance.

It may be properly asked how it has happened that this great source of wealth has been permitted to lie dormant and undeveloped to the present day. If this enormous area of coal be located so close to tidewater and cannot possibly come into competition with American coal mined in other sections of the country, its sole province would be to compete with foreign coal only in regions where American coals are practically unknown. This question is answered by the writer in a very satisfactory manner. Indeed, the astonishing statement is made that the utilization of what ought to have been a national treasure was prohibited by national legislation. This is, indeed, a strange revelation, and is explained very tersely as follows:

"It has often been asked how it happened that this coalfield, penetrated by a river with abundance of water at all seasons to float coal barges to the larger and always navigable streams, situated only 350 miles from the Gulf of Mexico, with coal of the best quality, should have remained so long closed to the wants of the world, and at a loss of millions to the commerce of the United States.

"When it is considered that there was practically no coal mined in the Gulf States before the war; that in 1870, according to the census of that year, only 10,000 tons of coal was produced in Alabama; that there was no capital in the business and no inclination to invest, and that these rich fields were comparatively unknown, it is easy to comprehend the situation.

"But the chief obstacle to the initiation of the enterprise was, strange to say, the prohibiting national legislation. In 1828 Congress declared that, 'the Tennessee, Coosa, Cahaba and Black Warrior rivers, within the State of Alabama, shall be forever free from toll for all property belonging to the United States, and for all persons in their service, and for all citizens of the United States except as to such tolls as may be allowed by act of Congress;' and this law may now be found under the title 'Rivers and Harbors,' Sec. 5244, Revised Statutes United States.

"These facts are mentioned to show that those rivers, and especially the Warrior, were the subjects of national solicitude fifty-five years ago.

"This subject has of late years been thoroughly discussed in Congress until the improvement of the Warrior, Coosa and Cahaba rivers in Alabama is regarded with much favor as a work of national importance, almost second only to the great problem of restraining the floods of the mighty Mississippi."

Not the least interesting subject in General Burke's admirable pamphlet is the progress of the work of government improvement. It was only in 1884 that the attention of Congress was brought to this anomalous condition of affairs, and since that time the work on the Warrior river has made fair progress, the amount already appropriated reaching the sum of \$603,750. Three magnificent locks have been constructed at Tuscaloosa at a cost of \$200,000 each, and it is estimated that \$1,750,000 will be required to complete the improvement up to the forks of the Warrior and to the region of the celebrated coals of Walker county, Alabama. It is apparent that Congress realizes the importance of the work, which is essentially national in its character. The improvement of the river is on a broad plan, the locks being fifty-two feet in width and in length 322 feet.

The strength of the position taken in behalf of the improvement of the Warrior and the opening of the coal trade on the Gulf of Mexico is rendered impregnable from an American standpoint by the fact that it does not antagonize the interests of any coal-producing section in the United States. The countries that would be supplied by the Alabama coal barge on the Warrior and the American collier in the Gulf are now almost entirely supplied by Great Britain and Nova Scotia. Here, then, is a proposition to expand American trade in a very important article without creating any competition with home industries or our own people.

Then there is a fact of equal importance, that in the development of this new field we have a reliable supply of American coal of superior excellence at our own doors, and at a price that will defy competition. If it be true, as General Burke alleges, that the price of a ton of coal at British tidewater is never lower than \$2, and that coal of as good and perhaps better quality can be delivered at Mobile at \$1.25, this would be not alone a triumph for Southern development, but one of the greatest victories for American trade generally that we could conceive of.

General Burke deals with the subject of the coal trade in the Gulf of Mexico and South America, the important position of Mobile, and sums up his argument as follows:

"1. That the Great Warrior coalfield is the only practical source on the American Continent from which coal may be floated to the tide in all seasons of the year at a price lower than the cost at British tidewater, on the Atlantic seaboard, or anywhere else.

"2. That the quality of coal mined in the Warrior field is equal to that of any bituminous coal mined in any country.

"3. That the enormous quantity of coal in this field and adjacent to the river will be sufficient to supply the wants of the commerce of the Gulf for an indefinite period.

"4. That for the supply of our ships of war, the merchant marine, the Nicaragua canal and coming American coal-ing stations in the Gulf of Mexico, the Warrior river can alone furnish coal at

prices low enough to throw this large trade into American hands exclusively, and retain it forever.

"5. That the immense natural advantages enjoyed by the port of Mobile must necessarily make it above all others the great coal port of America."

#### Improvements at Sabine Pass.

Sabine Pass, Texas, October 5.

*Editor Manufacturers' Record:*

The record evidence of the storm of September 12 is now mainly in the form of lumber and labor bills. Both in the old and new towns the injured buildings have been repaired, and in the case of a few partially completed houses demolished, rebuilding is either completed or well under way. So that, upon the whole, there are more and better houses in Sabine Pass than before the storm. The yellow-fever quarantine, and alarm incident thereto, have somewhat paralyzed business, and especially those classes of work requiring outside material. Since the modification and systematizing of quarantine regulations of the past few days less inconvenience is experienced. Messrs. Christie & Lowe, the jetty contractors, are now receiving rock through from Louisiana by specially-guarded rock trains. Their dredging work has not been interfered with by either storm or fever fright, and now that their stone supply is reinstated, work is moving along again with full forces.

Contractor Hanson, of the pile-driving for the Sabine Land & Improvement Co.'s second slip, has suffered delay by reason of quarantine restrictions. His piling material is now permitted to come in by rail, and the steam hammers are again pounding away. The work of street grading and improvements upon the new townsite were not interfered with for a day from any source, and what, with splendid weather and activity in preparation for winter and possibly bad weather, the streets and townsite are in good condition for storm or sunshine.

The new Hotel Windsor has had its furniture and fixtures tied up at various points between Chicago and here for nearly a month. A couple of carloads have gotten through, more are near at hand, and Colonel Furlong, the well-known hotel manager, expects to soon open his register for guests.

It now looks as though quite extensive cotton shipments will be made from this point this season. Deep water now lies in commodious slips and alongside piers from which the largest ships can load and unload in security and with economy.

Chas. Clarke & Co.'s new hydraulic dredgeboat, the "R. P. Clarke," is expected to set its machinery in motion next week in the new slip of the Sabine Land & Improvement Co., of which they have the contract for excavating. It may be safely put down that among the busy, growing and coming places of the South is Sabine Pass. W. L. P.

#### Lake Submarine Boat.

The boat built for the Lake Submarine Co. at the Columbian Iron Works, Baltimore, was recently tested successfully in the dry-dock at this plant. The dock was filled with water to the depth of twenty-one feet and the boat submerged so that its top was five feet below the surface. Simon Lake, the inventor, and several others remained in the boat under water for some time exchanging telephone messages by means of tubes with people around the dock. It is expected to begin practical operation of the boat in a few weeks. This vessel was fully described and illustrated several months ago in the *Manufacturers' Record*.

#### ACTIVITY AT WINSTON.

*The Enterprising North Carolina City Seeking New Industries.*

Mr. William A. Blair, secretary of the Chamber of Commerce, Winston, N. C., writes as follows to the *Manufacturers' Record*:

"Interest is now centred in Winston-Salem because of the large plant, partially finished, which will transmit electrical power from the Yadkin river to the cities for the purpose of running the many manufacturing establishments already in operation, and also for furnishing cheap power to those that may come. The opportunities for good and safe investments in these towns are better than ever before, and new manufacturing enterprises are desired. A large fertilizer plant will soon be in operation, the new cotton mill is running night and day and prosperity has come. All inquiries cheerfully answered.

"A big tobacco fair will be held November 3, 4 and 5."

#### Minerals of Alabama.

The mineral productions and manufactured products therefrom for the State of Alabama for the month of August, 1897, as reported by the producers to Dr. Eugene A. Smith, State geologist and secretary Alabama Industrial and Scientific Society, are as follows: Coal, 401,506 tons; coke, 109,270 tons; iron ore, 136,958 tons; pig iron, 62,279 tons; flux, 21,874 tons; bauxite, 808 tons; building stone, 5000 cubic feet. Total number of employees, 12,960.

#### Literary Notes.

*Standard Electrical Dictionary.* By Prof. T. O'Connor Sloane. Publishers, Norman W. Henley & Co., New York.

This volume of 624 pages, containing 350 illustrations, has been revised and enlarged by its author, and will be found useful by everybody in any way interested in electrical science, whether he be an expert or a workman. It is no mere dictionary, but the alphabetical arrangement of terms and subjects, with practical information added to definitions, make it a handbook of reference. Definitions are terse and concise, and the features of synonyms and the index make the volume complete.

*My Wife's Husband.* By Alice Wilkinson Sparks. Publishers, Laird & Lee, Chicago.

This is an alleged autobiography, written in what is known as the Hoosier dialect, as the vehicle for humorous, and at times acerb observations upon the frailty of humanity in general, and of particular types in particular. Throughout the volume is a vein of satire dealing with literary questions, and if the work lacked interest in every other respect, as it does not, it would be valuable for its trenchant criticism of that unconscious satire upon modern fiction methods, that exhibition of genteel nastiness known as "Tribby." Absence of a plot makes the story a little wearisome if read continuously, but it will do to while away an odd half-hour here and there.

*Soldiers of Fortune.* By Richard Harding Davis. Illustrated by Chas. Dana Gibson. Price \$1.50. Publishers, Chas. Scribner's Sons, New York city.

The appearance of Mr. Davis's first long novel had been anticipated with pleasure by the reading public, and that it has passed into its eighth edition proves that its popularity is ensured. The book tells an exceedingly natural love story in a delightful literary style, interwoven with one of the "before-



breakfast" revolutions of an imaginary Spanish-American republic, and the pathetic death of a chivalrous English subaltern serving in the republic's army. The principal characters are well drawn to the life, and there are no exaggerated situations, such as are common in the novels of today. One of the principal characters of the story is a self-made man in every sense of the word, who rises from an uneducated barefoot boy to be one of the polished and prominent civil engineers of the day, and finally marries the daughter of a great American capitalist. In this book Mr. Davis has proven himself the worthy son of a literary mother, and if he presents more works of the same degree of merit the readers of this generation (and mayhap others to follow) will be the gainers by many hours of delightful entertainment.

**The Christian.** A story. By Hall Caine. Publishers, D. Appleton & Co., New York.

Here is a dissection and description, with commensurate art and skill, of the mental and physical emotions of John Storm, trained to reform political Great Britain, and seeking his avocation in the church, and of Glory Quayle, whose grandmother was a French actress and her grandfather a parson on the Isle of Man. The author has abundant opportunity, in developing the contradictory traits of his leading characters, to display his wonderful strength as a portrayer of what may be termed the nude in literature. John Storm is a parietic of homicidal tendency. He attempts to apply, single-handed, the doctrines of the Sermon on the Mount to the solution of social problems in London, the modern Babylon. He fails, of course, but is temporarily sane after he has received his death blow on the skull. Glory Quayle is a pagan born of inherent honesty and able to survive both the struggle within her of her grandfather and grandmother, and also the savage courtship, unconscionable on his part, of John Storm, though she does marry him on his death bed. An impressionable person who cherishes ideals of society will be charmed by the story. It may be read without danger by a person possessed of a Harveyized heart and a calmed conscience. It will be a refreshing draught for a person accustomed to a diet of Dead Sea apples.

#### GENERAL NOTES.

##### Brief Mention of Various Matters of Current Interest.

The Merchants' Association, recently organized at Wilmington, N. C., has elected W. A. Johnson, president; N. W. Jacobi, vice-president, and P. Heinberger, secretary.

Plans have been made to remove the Knoxville Building at the Tennessee Exposition to Knoxville at the close of the exhibition. It will be used as a hall for the permanent display of Knoxville's products and resources.

The Goldsboro (N. C.) Chamber of Commerce has been incorporated by G. A. Norwood, Jr., Joseph W. Robinson, W. E. Borden and others. The object of the organization is to advance the business interests of the city.

At the annual meeting of the Norfolk & Portsmouth Cotton Exchange the report of the board of directors showed that the receipts of cotton at this port were 741,937 bales, compared with 344,681 bales for the previous year. There were 200,875 bales exported during the year.

## RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### Railroad Annual Reports.

The annual report of the Louisville & Nashville Railroad Co., which has recently been made public in detail, is attracting considerable interest from the fact that it is very exhaustive, giving a complete analysis of the company's condition and the year's business. It has been audited by expert accountants having no connection with the company. The net earnings for the year were \$6,523,090, a decrease of \$362,415. The total income showed a decrease of about \$369,723 over the previous year. The operating expenses increased \$344,012, and \$546,571 was expended during the year for equipment and improvements, which was charged to operating expenses instead of the construction account. Without this amount an increase of nearly \$200,000 would have been shown in the report over the preceding year. The amount referred to was spent for relaying 107 miles of track with new steel rails, and about twenty-one miles of branches were also improved during the year. The company constructed twenty-five cars at its own shops and added 358 cars and seventeen locomotives to its rolling stock.

The gross freight earnings amounted to \$14,641,263, and the passenger earnings \$4,291,735. The new lines acquired during the year, aside from the Middleboro Railroad was a line one mile long, which included the Cumberland Gap tunnel and the Paducah & Memphis. The total amounted to 265 miles.

At the annual meeting of the company the present officers were elected as follows: Milton H. Smith, president; August Belmont, chairman of the board of directors; Stewart R. Knott and A. M. Quarrier, vice-presidents, and J. H. Ellis, secretary.

Another interesting report is that made by the St. Louis Southwestern Railroad Co. The tonnage of freight carried during the year by this company increased 37,631 tons. The income account shows a deficit of \$63,188, which is about \$14,000 less than last year. The sum of \$113,544 was expended for betterments, which are charged in the operating expense account. The company is now constructing a branch between Delta, Mo., and the Mississippi river, where it will enable the transfer of freight with less difficulty than from its present terminus. It is calculated that the cost of these improvements will not exceed \$565,000, of which the cash outlay will be \$260,000, the balance being provided by a bond issue of \$300,000.

The annual report of the Nashville, Chattanooga & St. Louis Railroad Co. was briefly referred to several weeks ago in the Manufacturers' Record, and improvements which that company has made during the year were noted. A complete report of the company shows that it operated 904 miles of line during the year, two miles less than in the previous period. The total gross earnings amounted to \$5,116,119 and the net earnings to \$1,911,448, an increase of about \$1000. It would seem that the results for both years were nearly identical as to expenses, for the maintenance of way amounted to \$619,550, a difference of less than \$1000 from the previous year, and the maintenance of equipment to \$359,984, practically the same as the year before. This would indicate that the estimates for operating and maintaining the line are carefully calculated. Another illustration of this is shown in the ex-

pense of conducting transportation, which varied but \$38,000 from the previous year, an increase to that extent being reported for the year 1896-97. The total income for the year amounted to \$1,911,448, and after deducting disbursements, including dividends amounting to \$400,000, a surplus was left of \$3016. In 1894-95 a deficit is reported of \$18,730, which shows an improvement in two years of nearly \$22,000. It is unnecessary to state that the business of the Tennessee Centennial, which began since the fiscal year closed, does not enter into this report. The earnings from this source will undoubtedly be very large, and make an extremely favorable showing in the next report of the company.

The Nashville, Chattanooga & St. Louis traverses such a section of the South that it forms one of the principal connecting links between the Northwest and the South, and in that way derives a large amount of through freight business, while the amount of local traffic created is also very extensive. The company now owns 160 locomotives, and about 4600 passenger and freight cars.

The annual report of the Mobile & Ohio Railroad Co. in its complete form has been made public, and shows the following details: The income account shows a surplus of \$19,319 after deducting charges of every kind from the gross earnings. During the year new equipment was purchased to the amount of \$147,823. The report of the freight department shows that 1,091,416 tons were carried, an increase of 140,166 tons over the preceding year. The Mobile & Ohio has no floating debt except the amount represented in car trusts, which is \$147,823. Of this amount about \$40,000 matures during the coming year. While its capital is but \$5,320,600, of this amount \$2,359,400 is held in its treasury. The branch of the Mobile & Ohio between Montgomery and Tuscaloosa, Ala., also to the Western Alabama coalfields, will probably be completed during the next year and placed in operation. These branches, which have already been described in the Manufacturers' Record, are expected to prove an important source of income, and will give the Mobile & Ohio lines to Montgomery and other important towns of Alabama, and will doubtless prove a factor in increasing its through business.

### Pennsylvania's High Standard.

The result of the track inspection of the Pennsylvania Railroad between Pittsburg and tidewater has been made public, and shows that the road is in all respects up to the very highest standard established by the Pennsylvania Company. What is known as the dynograph car, which automatically records all inaccuracies and defects in the track, was used, and the result of its operations proved that the system is in excellent condition. According to the statement of one of the inspectors, the road is in perfect physical condition. The track is laid with the heaviest rails ever put down by the company, and may be said to be as smooth as a floor. A number of curves have been eliminated, and the line entirely ballasted with stone gives a solidity to the roadbed which cannot be obtained in any other way. The ties are of a uniform standard, and on no part of the system, it is stated, is there a variation in them equal to one-eighth of an inch. The various bridges were in the same condition as the balance of the railway, and to sum it up, the road is at the very "top notch" of physical excellence.

It is unnecessary to say that for many years the Pennsylvania Railroad stand-

ard has been accepted as the highest type of excellence by railroad men throughout the United States.

### Washington & Gettysburg Line.

In connection with the railroad proposed to be built between Washington and Gettysburg, Pa., which is being promoted by the Washington & Gettysburg Railroad Co., a report is current that this may form a connecting link of another north and south system, and that Messrs. J. P. Morgan & Co., of New York, are among those interested in it. It has been generally supposed that the line was intended for local traffic between the points mentioned. At Gettysburg it will make a connection with the Philadelphia & Reading system, now under control of Morgan & Co., and at Washington with the Baltimore & Ohio. This would give the Philadelphia & Reading a direct entrance into Washington from the Northwest, and if the plans of the Baltimore & Ohio to build a bridge across the Potomac river and make a connection with the Southern or some other line at Alexandria, Va., are carried out, a new system would be formed which would be of great magnitude. The line from Washington to Gettysburg is to be operated by steam-power, and not electric, as was originally intended.

### A Feeder of the Southwestern.

The Deckerville, Osceola & Northern Railroad Co. has completed plans to extend this road, which is now in operation a distance of about twelve miles, from Deckerville, Ark., to Pawpaw Junction, where it will connect with the St. Louis Southwestern system. The line now extends from Deckerville north, and the extension would traverse Mississippi county, Arkansas, and New Madrid county, Missouri, making the total length of the road eventually 100 miles. It is proposed to extend to Osceola, a distance of thirty-three miles, immediately, which will necessitate the construction of twenty-one miles of main line and about eight miles of sidings. Vice-President E. M. Ford advises the Manufacturers' Record that it is proposed to issue \$150,000 in 6 per cent. bonds to finance the undertaking. The officers of the company are: George W. Decker, of Newport, Ark., president; E. M. Ford, of Deckerville, vice-president, and J. G. Webb, of Deckerville, secretary and treasurer.

### Another Georgia Project.

A dispatch from Valdosta, Ga., announces that a company has been formed to promote an important railroad line in the southern portion of the State. It is entitled the Atlantic, Valdosta & Western Railroad Co., and is to have \$100,000 minimum capital. The entire length of the line to be operated will be seventy-five miles, extending from Valdosta to a connection with the Florida Central & Peninsular system at Crawford, Fla. G. S. Baxter & Co., of Haylow, Ga., who operate a railroad about twenty-seven miles long, are members of the new company, and it is understood that their road will form a portion of the line. Those interested are Walter Franks, of New York; F. W. Long and H. A. Tabb, of Haylow, Ga., and J. W. English, of Atlanta.

### B. & O. Improvements.

The Baltimore & Ohio Railroad Co. has opened its new depot at Camden Station for business. This building, which has already been described in the Manufacturers' Record, includes new waiting-rooms, a restaurant, ticket offices, etc. The cost, including the remodeling of the old station, was \$100,000.



The company has determined to use electric motors entirely for hauling trains through the Belt Line tunnel of Baltimore, instead of steam-power. By the use of the new station the delay of shifting express trains between New York and Washington on the sidetracks will be avoided.

#### Railroad Notes.

Charles Keeler has been appointed agent for the Kansas City, Memphis & Birmingham Railroad Co. at Memphis, Tenn.

W. E. Rand has been appointed commercial agent of the Texas, Arkansas & Louisiana Railroad Co., with headquarters at Atlanta, Texas.

The office of superintendent of telegraph has been created by the Southern Pacific Railroad Co., and J. B. Donner has been appointed to that position.

The steamship Sahara recently cleared from Wilmington, N. C., with 13,700 bales of cotton. This is the largest shipment of the staple ever made from that port on one vessel.

Mr. T. H. B. Dawson, of Berkeley Springs, has been elected president of the Berkeley Springs & Potomac Railroad Co.; H. W. Disher, secretary, and J. Hammond Siler, attorney.

The earnings of the Georgia & Alabama Railroad Co., it is stated, for September will amount to over \$100,000. This is the largest amount of gross earnings in the history of the company.

The Ocean Steamship Co. has decided to place three vessels on its line between Savannah and Boston. It is calculated by this service a ship will arrive at Savannah every Wednesday and Saturday.

The annual meetings of the several companies composing the Seaboard Air Line resulted in the re-election of R. C. Hoffman as president, and E. St. John, vice-president, no changes being made in the general officers of any of the companies from last year.

The Southern Railway Co. has completed a train at its Birmingham shops, which will be used on the Greenville division. The train consists of a mail and baggage car and two passenger coaches. It is handsomely finished, and the cars contain the latest improvements.

The City Passenger Railway Co. of Baltimore has recently completed twenty closed cars in its own shops, which have all the modern conveniences and are to be used on its trolley system. The company has recently given contracts for several important extensions in the north-eastern section of the city.

According to a dispatch from Savannah, the Central of Georgia Railroad Co. has determined to begin a daily service with its line of vessels between Savannah and New York, beginning about October 15. The fleet includes the new ship, the Grande Duchesse, which was recently tested and found to develop a speed of fully eighteen miles an hour. This vessel was constructed by the Newport News Shipbuilding & Dry-Dock Co.

The consolidation locomotives built by the Pittsburg Locomotive Works for the Baltimore & Ohio Railroad excite very favorable comment by reason of their general design, excellent workmanship and efficient service, and are further evidence of the great advance that is being made by the B. & O. in its motive power. Thirty-five of this type of locomotives have been placed on the second division during the past year, and with the reduction in grades and the increase in power the number of cars per train has been increased fully 40 per cent.

## TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

### NEW ENGLAND MILL MEN.

Transactions of the Cotton Manufacturers' Association.

A publication valuable to men interested in all phases of cotton is the "Transactions of the New England Cotton Manufacturers' Association," containing the reports of the annual meeting last April of the organization and the text of a number of papers read before it. In several of these are thoughts exceedingly suggestive for Southern millmen.

In his paper on "Competition with New England Cotton Mills," Mr. Curtis Guild, Jr., of Boston, presented a number of striking facts tracing the origin and development of the cotton-manufacturing industry in New England. He showed how it had overcome the competition of India in early days, and seemed to regard the lower wages of the South as the principal point of advantage for that section. In that connection he said that it would not be possible to "force the Southern cotton operative to strike for higher wages if he is content to work for his present remuneration," or to "force the Georgia cracker to strike for Massachusetts wages," but he contended that "there are two things, however, that legislation can accomplish; it can make a national regulation of the age of labor; it can make a national regulation of the hours of labor." Mr. Guild looked to the Orient for further competition.

Another subject discussed was cotton transportation from a railroad standpoint. During this Mr. D. A. Tompkins, of Charlotte, N. C., pointed out that the present bale was developed before the railroads; that cottonseed-oil mills and the new efforts to make round bales were very large movements in the direction of eliminating a great many entirely unnecessary processes. He said: "There will be a complete process of ginning cotton, of putting it into some convenient package that will be carried into a cotton mill, where the process will go on, nothing being undone whatever, and there will be some kind of transportation arrangement by which, I think, these laps, or short round bales, possibly, will be put into cars without any other packages than the car itself, and shipped directly to your cotton mills on through lines, possibly lines created for the purpose, not railway companies at all, but transportation companies, like the cattle companies or like the meat companies." Mr. Tompkins expressed the belief that the American Cotton Co. would in due course of time take up the organization of such transportation companies if its business should warrant it. He added: "In the South a great many of the cotton mills will do their own ginning. They will attach lapper appliances to the end of their gins. The cotton gin is as good an opener, in my judgment, as can be had, and a great many of them will probably, at an early date, start to manufacture laps in their ginhouses. They may buy seed cotton, put it in a warehouse and gin it as it is needed, or they may gin the cotton rapidly in the fall as it comes in and then store it in the shape of laps to be used."

The Manufacturers' Record has already published the paper on "The Round Bale and the New England Spinners," read by Mr. D. C. Ball, of St. Louis. The transactions show that he supplemented the paper with some informal remarks full of interest. He explained how the objection to the core of the bale had been overcome, the method of getting the new presses into operation, and said that the company had waited until they had secured perfection before considering foreign exports of the round bales. The saving in tare on each bale, he said, was perhaps eighteen to twenty pounds, and there would also be a big saving in freight. In another place he said: "One serious question that has come up with us is as to the attitude of the New England mills. Of course, it is a business problem with us. As cotton men, realizing the enormous waste, we were ready to adopt this as a means of making money. For twenty years, nearly, I have been in the cotton-handling business. \* \* \* The rest of us have always heard the great trouble is the condition in which cotton arrives in New England and at the foreign mills, and that the New England spinner wants an improvement in cotton. Now, gentlemen, we have given you that improvement. We do not blame any man for standing back and letting somebody else try the experiment, because that is what it was eighteen months ago. Some gentlemen did come right out—under our guarantee, it is true—but they came out, held out the hand of fellowship to use, and we sold over 5000 bales of cotton in the Boston district last year."

In addition to the proceedings and papers, the volume contains a list of the officers and members of the association and its charter, constitution and by-laws. The artistic typography and the attractive arrangement of the several features are evidently the result of the care and oversight of the secretary, Mr. C. J. H. Woodbury, of Boston.

The next meeting of the New England Cotton Manufacturers' Association will be held in Philadelphia October 27 and 28 in the Textile School. President Russell W. Eaton will occupy the chair; Mayor Warwick will deliver an address of welcome; Theodore C. Search, president of the National Association of Manufacturers, will give a brief talk on the city's industries; Edward W. France, director of the Philadelphia Textile School, will speak on "The Influence of the Artistic in Textile Designing." Among the other important papers to be presented will be the following: "Weaving as a Fine Art," by Alfred Hawkensworth, of Montreal, Canada; "Picking and Carding," by Marcellus Gould, Norwich, Conn.; "Modification in Mill Design Resulting from Changes in Motive Power," by Stephen Green, of Boston, Mass.; "Ring Spinning," by Alfred Adams, Whitinsville, Mass. The points embodied in some of these papers, following the custom of the association, will be discussed pro and con by a stated number of the members. The afternoon session of the convention on the second day will be held at the Philadelphia Commercial Museum. Here the delegates will be received by Dr. William P. Wilson and members of the board of trustees and inspect the collection of samples displayed in the institution before beginning work. Dr. Wilson will address the members on "Movement and Statistics of Cotton Goods."

#### Statistics of Cotton.

The twenty-fourth annual edition of "Cotton Movement and Fluctuations," of Latham, Alexander & Co., New York,

has appeared. This recognized statistical, standard reference book for everybody who is interested in cotton in all its forms, contains the usual tables of receipts, stocks, exports, consumption, acreage, total visible supply and fluctuations, the annual review of the cotton trade and a great mass of valuable original matter bearing upon the subject. Of special moment are the review of the cotton trade of the world, written expressly for this edition by Mr. Thomas Ellison, of Liverpool, well known as a statistician; a history of the New York Stock Exchange, with biographical sketches of Mr. Francis L. Eames, its president, and its secretary, Mr. George W. Ely, and a succinct explanation of cotton contracts. In fact, succinctness and handiness are the characteristics of the contents of the volume, which is printed in attractive form.

#### Round Bales at Barnwell.

A dispatch from Barnwell, S. C., says: "Capt. Mike Brown started his cylindrical press and gin plant recently, turning out round bales weighing as high as 558 pounds. This is the first plant of the kind in South Carolina, and will revolutionize the cotton business. He is paying five and three-quarters to six and one-quarter f. o. b. Barnwell for round bales, and has engaged space with C. H. Betts, of the Johnston Steamship Line via Charleston for the first shipment of 100 bales, which goes direct to Liverpool. He charges \$1.50 for ginning, compressing and covering. 'No tare; all cotton.' Seed cotton is taken from the wagons by suction pipe with the Winship improved system and delivered from the press ready for export. The farmers of this section are all pleased with this new enterprise, and are waiting and crowding the plant to be served. It takes ten minutes to unload seed from the wagon, gin and pack a bale complete."

#### \$100,000 Mill at Elizabethton, Tenn.

A charter has been granted to the Tennessee Cotton Mills, of Elizabethton, Tenn., for the manufacture of cotton yarns, and the greater part of the new company's product will be utilized by the Tennessee Line & Twine Co. in the manufacture of seine twine, cordage, fish lines, etc.

The company is composed mostly of Northern capitalists, including L. A. Briggs, of Ashaway, R. I., who is president; L. Godfrey, of Providence, R. I., vice-president; F. Hill, of Ashaway, R. I., secretary-treasurer, and M. E. Clarke, of Elizabethton, Tenn., general manager.

The capital stock to be invested will be \$100,000, and the mill will be of brick, fire-proof construction, equipped with modern machinery, and operations are expected to commence by December 15.

#### Invited to Go South.

The New England Cotton Manufacturers' Association has received an invitation to visit the textile-manufacturing sections of the South as the guests of the Southern Railroad Co. and the Seaboard Air Line. The association, which holds its annual meeting this year in Philadelphia on October 27 and 28, will doubtless take the matter under consideration at that time, and, if accepted, will visit the South at the close of the sessions. Readers of the Manufacturers' Record are well aware that a party of these manufacturers visited the South several years ago, and as a result a number of new mills were built, among them some of the largest in the Southern States. They were guests of the Seaboard Air Line during the trip.



**Textile Notes.**

The Charleston Cotton Mills, of Charleston, S. C., will put an electric-lighting plant in its factory, and has let contract for same.

It is announced that Mr. G. W. Parrott, of Atlanta, has expressed a willingness to contribute \$1000 to the building of a textile school.

Messrs. Stearns & Toof, of Paducah, Ky., intend to establish a large cordage factory, and are about to let contracts for the construction of the necessary buildings.

There is a movement on foot at Carthage, N. C., for the erection of a cotton mill, and a company may probably be organized. Among those interested in the enterprise are R. H. Tyson and W. H. McNeill.

The Warren Manufacturing Co. will add, so report states, new spindles to the number of 30,000. This mill was only recently completed, with 30,000 spindles installed. Mr. E. F. Verdery, of Augusta, Ga., is president.

The directors of the Cedartown Cotton Manufacturing Co., of Cedartown, Ga., held their annual board meeting in Philadelphia, Pa., on the 8th inst. It was decided to treble the mill's present capacity, which will make its equipment 12,000 spindles.

The first cylindrical cotton bale was recently received at Savannah from the cotton press which is now in operation at De Soto, Ga., near Americus. The bale excited considerable attention. It is four feet in length, eighteen inches in diameter and weighs 400 pounds.

The Muscogee Manufacturing Co., of Columbus, Ga., contemplates changing the motive power in its mill. It is proposed to discard the present boilers and engines and put in electric motors of 200 horse-power, these to be driven by power furnished by an outside company.

The stockholders of the Ada Manufacturing Co., of Charlotte, N. C., held their regular meeting during the week. P. M. Brown and M. P. Anderson were elected president and secretary-treasurer, respectively. The directors are Dr. Jos. Graham, P. M. Brown, T. R. Robertson, W. W. Ward, F. D. Alexander, M. C. Mayer and D. A. Tompkins.

Some months ago we announced that the Aiken Manufacturing Co., of Bath, S. C., had decided to enlarge its mill building by an additional story and put in 12,000 spindles and 300 looms, making 27,000 spindles and 720 looms in all in this mill. It is now rumored that the company will duplicate the 27,000-spindle plant. Mr. Thos. G. Barrett, Jr., Augusta, Ga., is treasurer of the company.

A dispatch from Columbia, S. C., states that the Elmwood Manufacturing Co., of that city, has awarded contracts for complete machinery equipment for its proposed cotton mill of 10,000 spindles and 350 looms. This company was chartered several months ago, and its purpose is to employ colored labor only when the mill is ready for operation. It is said that \$75,000 worth of stock has been subscribed by colored men, a few white capitalists taking the remainder. Mr. W. S. Monteith is the prime mover in this enterprise.

*Managers of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises and needing machinery or supplies of any kind will find it profitable to consult the advertising columns of the Manufacturers' Record. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.*

**COTTONSEED OIL.**

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

**The Market for Cottonseed Products.**

New York, N. Y., October 12.

The cotton-oil market is dull and spiritless, a further decline in prices having taken place during the week. Lard has continued in its downward course, although during the past twenty-four hours a slight improvement is noted, January goods being quoted at 4.42½ cents Chicago. Tallow is weak at 3½ cents, due rather to sharp competition between the New York Butchers' Fat Melting Co., recently established, and the older melting concerns. The yellow-fever scare has had much to do with present conditions, while the extraordinary efforts on the part of producers to market the new crop oil has undoubtedly tended to further weaken prices. Arrivals have not been excessive, however, the offerings referred to consisting principally of the prospective oil output October-November. Today we heard of prime summer yellow being offered at 23 cents, November delivery, while 15 cents is best bid for loose crude Atlantic coast mills and offered at 16 cents. The latter are now paying \$9 for seed, against \$12 last month. Texas mills have sold in quantities at 15 cents for crude, chiefly for the West, but the local demand is slow, notwithstanding the low prices. Exporters are still out of the market, although French and English purchasers are buying in limited quantities, the belief prevailing that for the larger supplies lower prices will prevail later on. While it is difficult to venture a forecast with a reasonable promise of verification in view of the many unexpected complications which have recently developed to depress the cotton-oil market, lower prices are unlikely to prevail, our belief being that bottom has been touched. The following are closing prices: Prime summer white, nominal, 26 to 27 cents; butter oil, 26 to 27 cents; prime summer yellow, 23 cents; off summer yellow, 22½ to 23 cents; prime crude, 20 to 21 cents; off crude, 19 to 20 cents; prime crude, loose, Atlantic, 15 to 16 cents, and soap stock ½ to ¾c. per pound. Old stocks of oil here are turning out to be heavier than was expected, and it is worthy of note that not a few speculators have realized forcefully that they are on the wrong side of the market, having purchased a few weeks ago at 3 or 3½ cents over the present price of summer yellow, expecting a 30-cent market. English oil, Liverpool, is dull at 15s. 9d. for refined. Receipts for the week reach 4560 barrels, and exports 3940 barrels, of which 1000 were consigned to France, 550 to England and 850 to Holland.

Cake and Meal.—Nothing further of interest has transpired. English linseed cake is cheaper, in consequence of lower-priced seed. In London, American cotton cake is scarce, and in the absence of supplies firm prices are quoted, an upward tendency being apparent. Meal is quoted nominally at this market at \$21.50 to \$22. Quarantine regulations have disorganized the export trade, and light shipments are reported. Liverpool quotes old cake at £5 12s. 6d. and new crop cake, 12 per cent. oil, at £6.

**Cottonseed-Oil Notes.**

The Palestine Cottonseed Oil Mill, at Palestine, Texas, started up on the 1st inst. for the season. The company has added considerable new machinery.

The Sherman Oil & Cotton Co.'s mill at Sherman, Texas, after being closed down on account of a strike, resumed operations on the 4th inst. The mill is now running at full capacity.

The Phoenix Cotton Oil Co., of Memphis, Tenn., was chartered last week. The incorporators are A. R. Wollen, James Swearingen, J. W. Parker, J. H. Du Bose and E. S. Elliott. The capital stock of the company is \$50,000, in shares of \$100 each. The company will manufacture and refine cottonseed oil and other products of cottonseed.

The market for cottonseed meal and cake in Texas is dull, owing to the absence of foreign demand. Cottonseed oil has further declined, and prime crude was freely offered on the 9th inst. at 15 cents f. o. b. interior mills, and sales were made on a basis of 14½ cents. The Houston Post, in its report on cottonseed products in Texas, quotes the market weak at the decline, and demand limited; prime crude oil, loose, 14½ to 15 cents; prime summer yellow oil, 18 cents; prime cottonseed cake and meal, \$13.50 to \$14.50; linters, per pound, 2¼ to 2½ cents, all f. o. b. mill Texas interior points, according to location.

In New Orleans the tone of the market for cottonseed products is steady, with values not materially changed. Receivers' prices are quoted nominal as follows: Cottonseed \$8 per ton (2000 pounds) delivered to the mills; cottonseed meal jobbing at the depot, \$18.50 to \$18.75 per short ton, and \$20.25 to \$20.50 per long ton for export f. o. b.; cottonseed oil, 19½ to 20 cents per gallon for strictly prime crude; in bulk, 17 to 17½ cents, and 23½ cents for refined oil at wholesale or for shipment; oilcake, \$20.25 to \$20.50 per long ton f. o. b.; linters—A, 3½ cents per pound; B, 3¼ cents; C, 2½ to 3 cents; hulls delivered at 10 to 15 cents per 100 pounds, according to location of the mills.

**Looking to the Railroad.****Editor Manufacturers' Record:**

The influence for good of the Montgomery extension of the Mobile & Ohio Railroad through this county, which is now rapidly approaching completion, is being very perceptibly felt in the earnest inquiries being made for farming lands in this portion of the State, which is one of the best agricultural sections of the State, but never before penetrated by a railroad, and lying here in the fork of the rivers, where a railroad would never come unless specially built to reach us, except for this accidental necessity of the Mobile & Ohio for an outlet to the Atlantic coast.

A splendid agricultural country is being thus developed and made accessible to those who may have a desire to immigrate to the South, where, perhaps, the cheapest homes on earth may be purchased, and the best for those who may be disposed to engage in agricultural pursuits.

Those desiring information can address the editor of the West Alabamian, or of the Alliance News, published at this place, or the writer. Now is the time for the homeseekers to come, and they will be astonished at the good homes they can obtain in the county of Pickens and at the very reasonable prices.

A short line railroad has been surveyed and located from Carrollton to Reform, on the Mobile & Ohio Railroad, a distance of nine miles, and a company incorporated to construct and operate it, which will at once build up a little city at Carrollton, with many manufacturing and industrial enterprises which promise us a great and prosperous future.

M. L. STANSEL.

Carrollton, Ala.

**PHOSPHATES.****Phosphate Markets.**

Office Manufacturers' Record, Baltimore, Md., October 14.

In the local phosphate market the volume of trade has been light during the week, and the market without any special feature. Manufacturers have been buying more freely during the past fortnight, and at present are well supplied. The movement in the mining section of South Carolina this season, while not as active as formerly, is better than is generally supposed. The reduction in the royalty to 25 cents per ton has thus far enabled miners to meet all competition. For the fourteen months ending with December last the State received in royalty an average of \$4484.85 per month, while the average for the past nine months is \$4349.50 per month. Prices are nominally steady, with a fair domestic and foreign demand. The development in the Florida phosphate belt continues fairly active, and among the pebble miners the output is better than usual. Shipments from the ports for the present month indicate increased action on the part of miners in land rock. Advances from the Tennessee phosphate field are more encouraging, and present indications point to a large export business during the coming year. In the local market the only charter reported was a schooner to load phosphate rock at Punta Gorda for Baltimore. Among the charters reported last week in New York was a schooner, 160 tons, from Grand Connetable Island to Cartaret with phosphate rock at \$2.25.

**Fertilizer Ingredients.**

The general market for ammoniates is quiet, with values a shade easier on certain material. Recent large purchases by manufacturers have supplied their wants, and business at the moment is quiet. The market for nitrate of soda is steady, and the visible supply to January 15, 1898, is figured at 250,900 bags, against 303,300 bags the same time last year.

The following table represents the prices current at this date:

Sulphate of ammonia (gas)	\$2 20 @	—
Nitrate of soda	1 77½ @	—
Blood	2 20 @	—
Hoof meal	1 95 @	—
Azotine (beef)	1 95 @	—
Azotine (pork)	1 90 @	—
Tankage (concentrated)	1 90 @	—
Tankage (9 and 20)	1 85 @	and 10
Tankage (7 and 30)	17 00 @	18 00
Fish (dry)	19 00 @	—
Fish (acid)	12 00 @	—

**Phosphate and Fertilizer Notes.**

The British steamship Whitefield arrived at Fernandina, Fla., on the 8th inst. from Cardiff to take a cargo of phosphate rock for Hamburg, Germany.

The total sales of fertilizers in the State of North Carolina for 1895, 1896, and for ten months of 1897 are estimated at 511,693 tons, and for 1892, 1893 and 1894 they amounted to 380,888 tons, showing an increase of 130,805 tons, or over 34 per cent.

The domestic shipments of phosphate rock from the port of Charleston, S. C., last week were as follows: Schooner S. B. Marts for Baltimore with 800 tons, and the schooner H. & J. Blenderman with 700 tons for the same port. The total shipments of rock to domestic ports from September 1 to October 8 amounted to 5811 tons, against 9715 tons last year.

Messrs. J. M. Lang & Co., of Savannah, Ga., report the shipments of Florida phosphate rock from that port for the month of September as follows: Steamships Glanton for Hamburg with 4350 tons; Counscliff for Bremen with 1855 tons; Endeavorer for Venice with 2810 tons; Port Victor for London with 2029



tons; Murcia for Hamburg with 1988 tons; Ayr for Genoa with 2196 tons, and Aymestry for Hamburg with 1960 tons; total, 17,188 tons.

A franchise was granted in New Orleans last week to a company for the erection of a fertilizer and phosphate plant on the property of the Union Oil Co. at Gretna. Two large brick structures measuring 60x200 feet will be erected, besides several smaller buildings. The new enterprise will have an output of 20,000 tons annually, and it is said the capital to be invested will reach \$100,000. Work on the plant will be commenced next week.

The principal nitrate producers of the west coast of South America entered into an agreement some time ago to restrict exports for three years. Under the arrangement adopted the exports for the current year ending March 31, 1898, were fixed at 23,500,000 quintals. Information has been received recently that this combination is about to break up, owing to outside competition by the Salar del Carmen Co., which refused to join in the agreement. Present indications point to an abandonment of the 23,500,000-quintal limit.

#### Sugar-Beets in the South.

In a recent issue the Manufacturers' Record referred to the reports which have been received by the Department of Agriculture at Washington, showing that beets containing a large percentage of saccharine matter have been raised in the Southern States. The reports came from a section of Virginia near Richmond. Since that time a number of other samples of beets grown in the South have been analyzed by the Department of Agriculture, and the Manufacturers' Record has received a report, through these analyses, from Prof. H. W. Wiley, the chief chemist. The table is as follows:

States.	Average weight, grams.	Average weight, ounces.	Sugar in juice, per cent.	Sugar in beets, per cent.	Purity.
Maryland .....	415	14.2	9	8.55	...
Maryland .....	1077	38	10	9.50	...
Maryland .....	226	8	11.7	11.12	...
Maryland .....	453	16	9.4	8.93	...
Maryland .....	535	18.8	9.8	9.31	...
Maryland .....	992	35	10.4	9.88	...
North Carolina.	567	20	9.7	9.21	...
Virginia .....	580	20.4	7.9	7.50	...
Virginia .....	737	26	13.2	12.54	...
Virginia .....	680	24	7.1	6.74	...
West Virginia..	482	17	17.8	16.91	...
West Virginia..	510	18	17	16.25	78.7
West Virginia..	397	14	18	17.1	83.9
West Virginia..	510	18	19.9	18.91	88.8

It will be noted that the samples from West Virginia show from 17 to nearly 20 per cent. of sugar in the beets. The beets referred to were grown at Alderson, in Monroe county, and it is believed that their excellence is largely due to the elevation, which gives the climate well suited to beet culture, as the analysis referred to in this article in the Manufacturers' Record is but one sample. It will be seen by the report above that the cultivation of beets has attained fair results in at least four Southern States. There is a possibility that even better returns will be obtained as the analyses progress.

In connection with the subject it is stated that Orris B. Brown, manager of the Hollywood Place Farm, near Cape Charles, Va., has succeeded in obtaining a yield of beets which amounted to 25,047 pounds to the acre, or over twelve tons. An analysis of these beets shows that the largest percentage of the juice was 13 1-5 per cent. of sugar and the beet itself 12.54 per cent.

## LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

### LUMBER MARKET REVIEWS.

#### Baltimore.

Office Manufacturers' Record,  
Baltimore, Md., October 14.

The local lumber market is reported quiet, and although in certain lines there is some improvement, yet the total business shows very little expansion as to volume. The demand during the week for air-dried yellow-pine lumber is better, and yardmen have been in the market making more liberal purchases. The demand for North Carolina kiln-dried pine lumber continues fairly active, with values very steady. Out-of-town buyers and exporters are taking considerable material, and several shipments to foreign ports are reported for the week. White pine is firm, with a fair demand, and stocks well assorted. Cypress is quiet, with a moderate demand, and values steady. In hardwoods there is some improvement, and the demand from local as well as out-of-town buyers is fair. Furniture manufacturers and other woodworking concerns have been liberal buyers lately. In poplar and walnut the market is firm, with values showing a higher range, and stocks rather lighter than usual. The export trade continues light, and shippers are not seeking any new business, owing to the unsettled state of the market in Great Britain.

The following list represents the prices current at this date:

[The quotations for yellow pine are for cargo lots, and for all hardwoods the figures indicate values for choice car lots.]

#### VIRGINIA AND NORTH CAROLINA PINE

5-4x10 No. 2, kiln dried.....	\$12 50@	13 50
5-4x12 No. 2, kiln dried.....	14 00@	15 00
4-4x10 No. 1, kiln dried.....	15 00@	16 00
4-4x12 No. 1, kiln dried.....	12 50@	14 00
4-4 nar. edge, No. 1, kiln dried.....	17 50@	18 50
4-4 wide edge, No. 1, kiln d'd.....	23 00@	24 00
6-4x10 & 12, No. 1, kiln dried.....	12 50@	13 50
4-4 No. 1 edge floor, air dried.....	10 00@	11 00
4-4 No. 2 edge floor, air dried.....	15 00@	16 00
4-4 No. 1 12-in. stock, air dried.....	12 50@	13 50
4-4 No. 2 12-in. stock.....	12 50@	13 50
4-4 edge box or rough wide.....	8 00@	8 50
4-4 edge box ord. widths.....	7 00@	7 50
4-4 12-in. rough.....	9 00@	9 50
4-4 narrow edge.....	6 50@	7 00
4-4 wide.....	7 50@	8 50
4-4 10% and 10% inch.....	7 50@	8 50
Small joists, 2 1/2-12, 14 and 16 long.....	7 50@	8 50
Large joists, 8-16 long and up.....	8 00@	9 00
Scantling, 2x3, 2x4 and 3x4.....	7 00@	8 00

#### WHITE PINE.

1st and 2d clear, 4-4, 6-4, 6-4 and 8-4.....	\$47 00@	48 00
3d clear, 4-4, 5-4, 6-4 and 8-4.....	42 00@	43 00
Good edge culs.....	14 50@	15 50
Good stock.....	16 50@	17 50

#### CYPRESS.

4-4x6, No. 1.....	\$19 50@	20 50
4-4x6, No. 2.....	13 50@	14 50
4-4x6, 16 feet, fencing.....	10 00@	11 00
4-4x6, rough.....	8 50@	9 00
4-4 rough edge.....	8 00@	8 50
4-4 edge, No. 1.....	16 00@	17 00
4-4 edge, No. 2.....	12 00@	13 00
Gulf, 4-4, Nos. 1 and 2.....	25 00@	29 50
Gulf, 6-4, Nos. 1 and 2.....	28 00@	30 00

#### HARDWOODS-WALNUT.

5-8, Nos. 1 and 2.....	\$85 00@	75 00
4-4, Nos. 1 and 2.....	80 00@	90 00
5-4, 6-4 and 8-4.....	85 00@	95 00
Newell stuff, clear of heart.....	85 00@	100 00
Culls.....	20 00@	30 00

#### OAK.

Cabinet, white and red, Southern, plain-sawn and good, 1 and 2, 8 inches and up, 12 to 16 feet long, 4-4.....	\$30 00@	34 00
Quartered white, Western, 1 and 2 quality, all figured, 6 inches and up wide, 4-4.....	53 00@	55 00
Culls.....	10 00@	15 00

#### POPLAR.

Nos. 1 and 2, 5-8.....	\$24 50@	25 50
Nos. 1 and 2, 4-4.....	28 00@	30 00
Nos. 1 and 2, 6 and 8-4.....	32 50@	33 50
Culls.....	11 50@	12 50

#### SHINGLES.

Cypr., No 1 b'rts, sawed, 6x20.....	\$6 25@	7 00
No. 1 saps, sawed, 6x20.....	4 75@	5 00
No. 1 hearts, shaved, 6x20.....	6 00@	7 00
No. 1 saps, shaved, 6x20.....	4 75@	5 00

#### LATHS.

White pine.....	\$1 85@	2 00
Spruce.....	2 00@	2 10
Cypress.....	1 50@	1 60

#### Charleston.

[From our own Correspondent.]

Charleston, S. C., October 11.

The present month has opened with a rather better feeling in the lumber market, and the demand for desirable lum-

ber has shown considerable improvement. At Georgetown the mills are running on full time, and have more orders on file than usual. Several schooners loaded last week and cleared with full cargoes for various Northern ports. At other milling sections business is fairly active. The market here on Saturday last closed steady, with quotations as follows: Merchantable lumber, \$14 to \$16 for city-sawn, \$12 to \$14 for railroad; square and sound, \$9 to \$13 for railroad, \$8 to \$11 for raft; dock timber, \$4.50 to \$6.50; shipping, \$8.50 to \$10.50. Shingles are in good demand at \$5 to \$7 per thousand. From September 1 to October 8 the shipments of lumber were reported as follows: New York, 1,710,059 feet; Boston, 862,850 feet, and other United States ports, 677,000 feet, making a total of 3,249,889 feet. Coastwise lumber freights are extremely low, being quoted \$4.38 to \$4.50 for lumber to New York; wet ties to Perth Amboy, 15 cents each, basis forty-six feet, and dry railroad ties to New York, 11 1/2 cents, basis thirty-six feet; lumber to Fall River, \$4.50. The schooners D. K. Baker, with 400,892 feet of lumber, and the Clara E. Bergen, with 371,332 feet, cleared for New York on Saturday.

#### Savannah.

[From our own Correspondent.]

Savannah, Ga., October 11.

There is greater activity now at this port than at any time during the present year. The general business of the city is improving, and shipments of cotton, naval stores and other products are of greater volume than usual. Last week there were sixteen foreign steamers here loading cotton, seventeen barges loading naval stores and seventeen vessels taking on cargoes of lumber. The lumber industry is unusually active, with a good demand from the usual sources. The shipments during September amounted to nearly 8,000,000 feet of lumber, and during the present month indications are that there will be a large increase over last. Reports from the nearby Georgia ports are very favorable, and at Brunswick the activity is quite pronounced, while at Darien it is said that the coming season in lumber and timber will eclipse that of any previous year. The crosstie industry is improving, and there is a good demand from Northern ports, over 1,000,000 feet having been shipped during the past week. The shipments of lumber during the week just closed were distributed as follows: New York, 538,179 feet; Boston, 68,880 feet; Baltimore, 908,660 feet, and Philadelphia, 1,551,895 feet, making a total of 3,067,614 feet. Among the charters reported in New York last week were the following: Schooner Charles Valentine, 536 tons, from Savannah to New York with lumber at \$4.75; schooner Henry Clausen, Brunswick to New York with lumber at \$4.75, and schooner Gem from Brunswick to Boston with dry cypress at \$5.

#### St. Louis.

[From our own Correspondent.]

St. Louis, Mo., October 11.

The volume of business so far during the present month shows no falling off in any branch of the local lumber industry. On the other hand, the demand is greatly in excess of the supply, and present indications favor the largest October trade on record. The demand comes mostly from Western buyers, but orders recently have been numerous from the East. In yellow pine the situation is very satisfactory as to prices, which show a marked advance. Stocks, however, are not so well assorted, and mills generally ship their product as fast as ordered, and in many cases are behind in their orders for certain grades and di-

mensions. The hardwood trade is in good shape, and the demand for all grades active. Yardmen have been active during the summer in buying up all desirable lots of lumber at mills, consequently local yards are well supplied. Oak is very firm, with prices on certain grades showing an advance during the past thirty days. There is also an active movement in cottonwood, and prices strong. A good demand for poplar exists at the moment, and prices steady. Walnut is moving freely, and at good prices. Other hardwoods are all selling freely, and at good figures.

#### Lumber Notes.

The planing mill of Henry Sternkopf & Son, at St. Louis, Mo., was destroyed by fire last week. It is said the loss will not exceed \$5000, which is mostly covered by insurance.

The schooner Frank A. Palmer cleared last week from Brunswick, Ga., for New York with one of the largest cargoes of crossties ever loaded on a vessel. She took out 33,400 ties, equivalent to 1,500,000 feet of lumber.

The saw mill and a quantity of lumber of the Kyle Lumber Co., of Franklin, La., was destroyed by fire on the 1st inst. The loss is estimated at \$12,000 to \$15,000, with no insurance. The company will rebuild as soon as possible.

The Delmarva Lumber Co. was incorporated last week by Baltimore capitalists. The incorporators are William W. Sinclair, Edward J. Murphy, John L. Unverzagt, Harry L. P. Reynolds and Clark T. Collins. The capital stock is \$20,000.

The Church Street Planing Mill Co. was incorporated last week in Huntsville, Ala., with a capital of \$20,000. The incorporators are W. I. Wellman, R. M. Church, R. L. Donaldson, L. R. Wellman and R. Latta. The company will manufacture woodenware of all descriptions.

The lumber-yard of J. B. Ransom & Co., of Nashville, Tenn., was swept by fire on the 6th inst. In the yard was a planing mill and box factory and about 13,000,000 feet of lumber, the whole valued at \$150,000. The mill and factory were consumed and a large portion of the lumber. The loss on the buildings and contents is estimated at \$25,000, and on the lumber \$75,000. It is stated that there was about 80 per cent. insurance.

#### CHANCE FOR CHATTANOOGA.

Suggestion of a Steamboat Line to Paducah, Ky.

Editor Manufacturers' Record:

Without claiming to know the fact positively, I have information indicating the opportunity for steamboatmen to make arrangements with the business men of Chattanooga, Tenn., by which a line of steamboats running from Chattanooga to Paducah, Ky., on the Mississippi river, could be well subsidized. I have no interests in Chattanooga excepting wanting to see the natural development of that place, and I have often wondered why the railroad companies did not give Chattanooga the same show that they seem to give other cities. The more encouragement a railroad gives to a town possessing the advantages that Chattanooga seems to possess the greater the growth of development in that town. To my mind railroads can develop the trade of a city or retard its progress by their encouragement or discouragement.

H. DUDLEY COLEMAN.

New Orleans, La.



## MECHANICAL.

## Sullivan Undercutter.

It will hardly be denied that in perfecting a coal-mining machine all working parts must be enclosed to withstand rough usage and dust; the valve motion must be such that it will accommodate itself to a varying length of stroke, and there must be a provision against the piston striking the head. In all mines the air pressure varies more or less. In

this check valve holds an air cushion which takes up the shock and prevents the piston from hitting the front head. It is automatic in its action, and prevents any increase in speed of stroke when the machine is being moved about on the board and when it is not striking the coal. By this means the speed of the return stroke is kept down so that the runner has time to direct each blow, while the cutting stroke is quick and strong. This governing device, together with the variable cut-off, accounts

and when the margin in coal mining was large. These conditions have entirely changed in the past few years. The market for slack has increased with the introduction of improved grate-bars, washing devices and greater economy in consumption of fuel by manufacturers. Mine operators are giving close attention to the smallest economies, and for this reason the machine that gives the greatest capacity per cubic foot of air consumed is necessarily of interest to the mine management.

Bartlett let-off, with new friction clamp.

Stearns pick-motion, which we introduced originally.

New filling brake, with new brake shoe and new brake adjustment.

New beams, with turned face on heads and machine-molded gearing.

New harness adjustments, with hand-tightener on jack.

Above relates to the ordinary loom mechanism.

A new hopper having new shuttle posi-

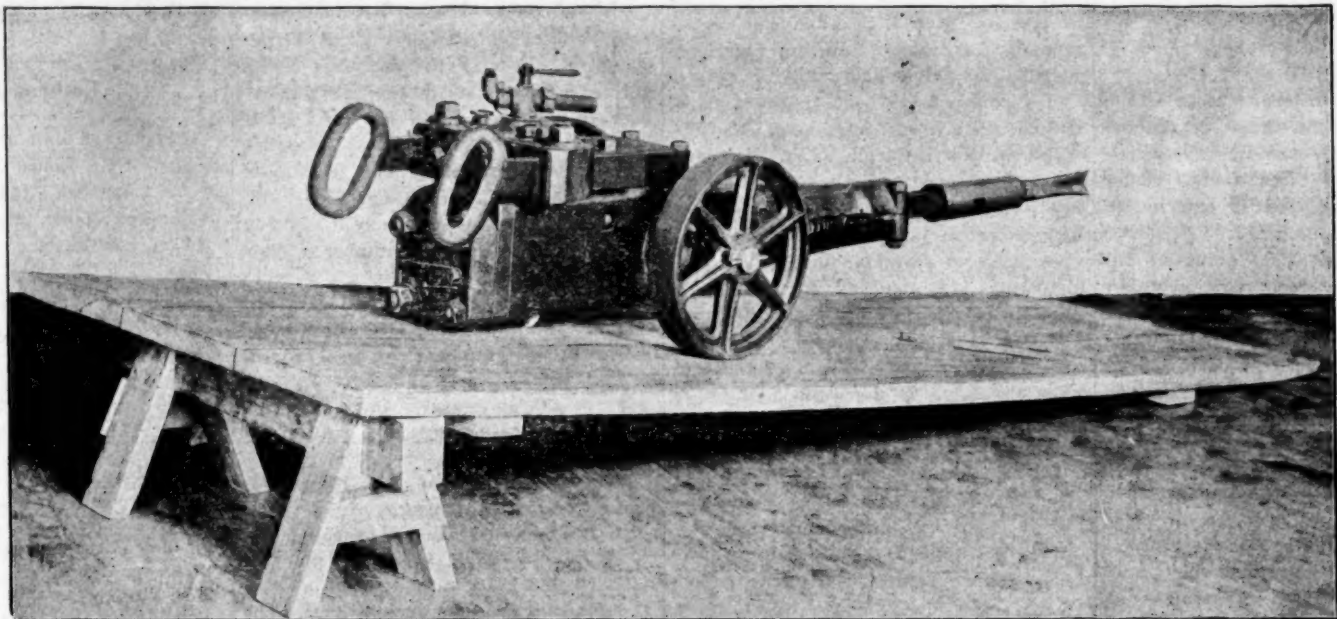


FIG. 1.—VIEW OF UNDERCUTTER, SHOWING INDEX POINTER FOR ADJUSTING CUT-OFF.

some cases there will be a variation as great as from eighty to forty pounds in the same mine, and to secure the best results the valve motion should be capable of adjustment to meet this variation.

The results obtained by the Sullivan undercutter are said to be due to the valve motion and the governing. This valve motion can be changed from a cut-off of one-sixth the stroke to one of one-half by simply turning the index pointer on the rear cylinder head shown in Fig. 1. This range allows an early cut-off for high pressure, and should the pressure fall the air can be made to follow half-stroke, thus securing the same strength of blow. The main valve is of the slide-valve type, being moved by a differential piston valve. This auxiliary piston valve is operated by pressure from the

for the continuously high record made by the machine, and for its economy.

Fig. 1 shows the machine mounted and ready for use. On the rear head is shown the index pointer used for adjusting the cut-off.

Fig. 2 shows indicator cards taken from undercutter while at work. The points of cut-off and exhaust are clearly defined, demonstrating the perfection of the valve motion.

In determining the size of cylinder for an undercutter one must discover just what strength of blow is best. The Sullivan Machinery Co. has adopted a cylinder four and a-half inches in diameter. By adopting a cylinder of this diameter, with a valve motion that is adjustable to varying pressures, yet positive in its cut-off in each position, the energy imparted to the piston is great, securing a quick,

These machines are manufactured by the Sullivan Machinery Co., 54 North Clinton street, Chicago, Ill.

## The Northrop Loom.

The new design of the Northrop loom, as shown, contains the following features which have been developed since the original drawings were made:

New frame, with stiffer sides, greater width between sides, larger feet.

New arrangement of parts, so that all

tion detector, now attached to the hopper itself.

A new slot protector or bobbin chute, stationary and attached to lay, saving many parts.

A new thread-cutter attached to the temple, preventing fringe on hopper side of selvage.

A new warp stop-motion, having new shape for detectors, new vibrator, gravity method of operation, automatic setting, positive action on shipper-handle.

Prices remain the same, except that



FIG. 2.—INDICATOR CARD TAKEN FROM SULLIVAN UNDERCUTTER WHEN MINING COAL.

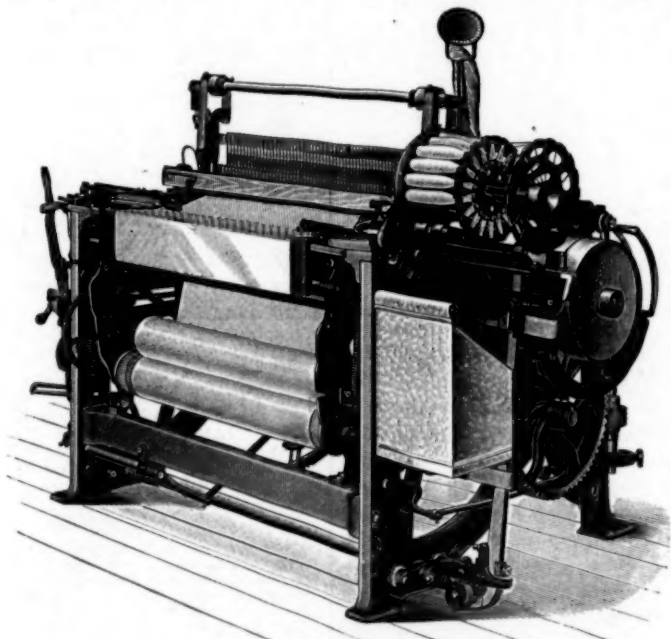
air chest, the time of movement being regulated by the position of the piston, and of the pointer on the rear head. The effect of this method of cut-off is to give the ideal blow that a reciprocating machine should strike. When the pick hits the coal the energy of the compressed air has been transferred to the moving piston, there being but little if any pressure upon the piston. The effect of this blow is to cut the coal without loss of power, and to relieve the runner from the heavy shock that must come if the pick strikes the coal with an unnecessarily high pressure behind it.

Another important feature of the machine is the governing check valve, controlling the inlet port leading from the air chest to the forward end of cylinder. The instant the pick falls to hit the coal

heavy blow, while the sharp cut-off realizes the full economy from the expansion of the air.

The indicator cards taken from the machine while at work compare very favorably with those taken from the best steam engines. Both theoretical and practical tests of these machines show positively that the 4½-inch diameter cylinder, with this valve motion, consumes no more air than would a machine without these features and with a cylinder of smaller diameter, while the cutting capacity is greatly increased.

The general impression has been in the past that economy in the consumption of power was a matter of small importance in machinery used about a coal mine. Slack costs nothing was the old theory when there was but little market for it,



THE NORTHROP LOOM.

parts are one hand except pulleys. (Note that shipper is opposite pulley end on this loom. Pulleys can be placed on other side without disturbing the rest of the loom. No one else makes looms with this convenience).

New lay, with adjustable reed flighter, long shuttle boxes, new binder adjustment, new design of parts carried by lay.

New cut motion, with metal take-up roll.

New take-up motion, positive and simple.

certain extras are now quoted lower than formerly.

For further particulars address the Draper Company, Hopedale, Mass.

## Swinging Hose-Racks.

For some time past there has been a growing demand for an automatic device for holding hose, and strenuous efforts have been made by Jno. C. N. Guibert (estate of), 39 Cortlandt street, New York city, to secure one that did not have any weak or objectionable features.



Of many devices submitted to this house, but one has been worthy of consideration, and it is now being offered to the public. This device has two principal parts, one of which is a standard make of valve, and the other a simple and strong reel. The reel is attached direct to the stem of the valves, and the turning of the reel either opens or closes the valve as desired. The manufacturer claims, there-

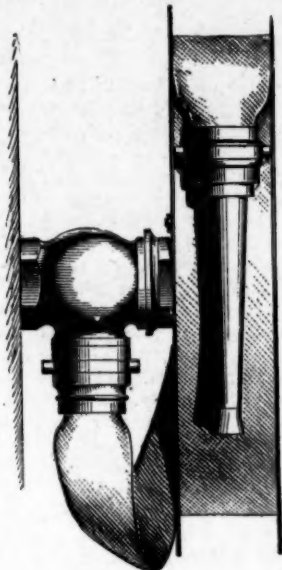


FIG. 1.

fore, that this device is the only automatic reel that controls the flow of water with a standard make of valve; perfectly automatic, because no valve has to be opened by hand before hose is supplied with water; no packed joints to become leaky; requires much less space than other devices; being not attached to walls, it saves disfiguring them, and also the trouble and expense of "putting up."

The perpendicular reel, as illustrated by Fig. 1, is intended for hallways or oblong rooms, where the runway is straight to the right or left of reel, and the 45-degree reel, as illustrated by Fig. 2,

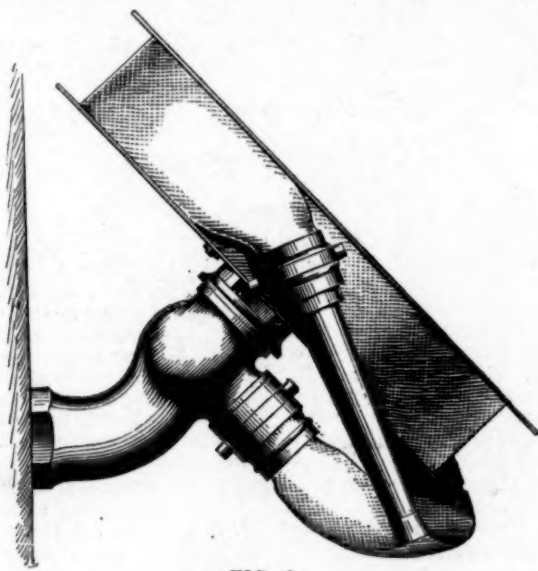


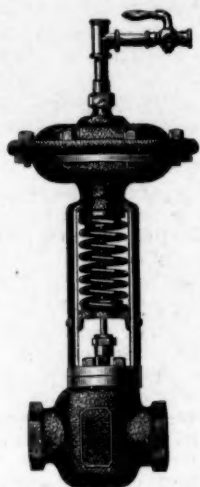
FIG. 2.

may be used anywhere, as its construction permits the hose to be unreeled in any desired direction.

#### Gravity Pump Governor.

The purpose of this governor is to control a steam pump discharging into an open elevated tank, in which it is required to maintain any desired water-level. The apparatus is very simple, and consists mainly of a Mason balanced valve, to which is attached a diaphragm chamber containing a diaphragm made of the best rubber stock, and reinforced with two thicknesses of cotton duck. This diaphragm is connected to the stem of the steam valve. The operation of the device is as follows: The governor is placed in the steam-supply pipe leading to the pump, and the pipe connec-

tion is made from the top of the diaphragm chamber to a point in the tank at which it is desired to keep the water-level. Steam is permitted to flow through the governor and into the pump, as the valve is held open by the tension of the spring shown in the cut. Should the water in the tank rise above the required level, it will overflow into the pipe connected to the governor, and exert a pressure upon the diaphragm which will close the steam valve, for the reason that this



GRAVITY PUMP GOVERNOR.

pressure, due to gravity, is greater than that imposed by the spring which held the valve open. In this manner the pump is stopped, and will not again start until the water in the overflow pipe is discharged, which is done gradually by leaving the small turn-cock partially open. When the pressure due to this column of water is taken away it is obvious that the tension of the spring will again open the steam valve and start the pump. This operation is repeated as often as the water in the tank rises above the required level.

This device is manufactured by the Mason Regulator Co., Boston, Mass.,

and is intended for use in buildings and factories where an open tank service is used.

#### Patent Foot-Power Mortiser.

This improved foot-power mortiser is made after entirely new designs and patterns, and is especially recommended to the consideration of builders and carpenters who do not employ power, but must have a first-class, reliable foot mortiser in their shops. This machine is claimed to be more powerful than any other yet introduced, and it is simplified in its construction in such a way that it will meet with a hearty reception from the carpenter and builder.

The frame is cast in one piece, the base being very broad, making a good, solid support for the machine, so that it is not

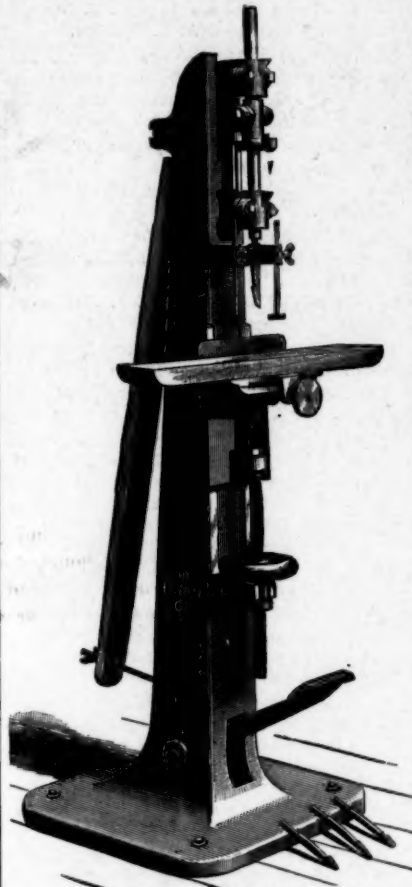
likely to tip or move when in operation.

The chisel mandrel is operated from the treadle below; the mechanism of this part is arranged in such a way that strength and leverage is attained with little strain on the working parts.

The table has both a vertical and horizontal adjustment, and is raised and lowered by a hand-wheel beneath. The ways, on which the table is raised and lowered in gibbed dovetailed slides, are cast on the frame, and make a solid, reliable bearing for the table, and any wear on these parts can be instantly compensated for.

The spring is of ash, and it will not crack, the maker says, by changes in the weather.

Four chisels are furnished with each



PATENT FOOT-POWER MORTISER.

machine—one-quarter, three-eighths, one-half and five-eighths inch. Other sizes can be supplied when wanted. The blind chisel for blind slats can also be supplied; this is furnished with three pair of bits—one and a-quarter, one and a-half and one and three-quarters inches; they are oval-shaped, and work in a superior manner; sash tenon chisel is also supplied.

The Egan Company, manufacturer, Cincinnati, Ohio, can be addressed for further facts.

#### Iron Markets.

Cincinnati, Ohio, October 9.

The demand for pig iron during the past week has been of normal proportions, and indicates a healthy condition of affairs. Most of the contracts in the central district have been from carloads up to 500 tons, and have been placed to cover the legitimate wants of consumers. Northern irons have been more active than Southern, and at many points it is possible to buy good Northern brands delivered at a somewhat lower price than corresponding Southern grades. The tendency, therefore, is for Northern buyers to increase their proportion of local brands.

In charcoal irons there is a steady demand, and several round lots of Southern and Hanging Rock brands have been placed for deliveries extending into next year.

One of the most encouraging signs of the times is the increased activity of the

rolling mills. The president of one of the prominent companies stated that he had orders booked for all the iron that could possibly be rolled during the remainder of the year, and his customers were demanding that the entire quantity be shipped promptly. He stated that a quotation was made at a price calculated to send the order to some more anxious competitor, but to his surprise the contract was awarded to him. Nearly all foundries report an increase in business, and trouble continues to exist about getting iron forward on account of the car famine. The only apprehension felt regarding future business is on the part of some agricultural machinery men, who say that the long-continued drought coming at this time of the year is likely to seriously affect next year's crops.

We quote cash f. o. b. cars Cincinnati:

Southern coke No. 1 foundry...	@ \$10 00
Southern coke No. 2 foundry...	@ 9 75
Southern coke No. 3 foundry...	@ 9 45
Southern coke, gray forge...	@ 9 25
Southern coke, mottled...	@ 9 00
Southern coke No. 1 soft...	@ 10 00
Southern coke No. 2 soft...	@ 9 75
Belfont coke No. 1, Lake Sup.	11 00 @ 11 50
Belfont coke No. 2, Lake Sup.	10 50 @ 10 75
Hanging Rock charcoal No. 1	14 50 @ 15 50
Tennessee charcoal No. 1...	12 50 @ 13 00
Jackson Co. silvery No. 1...	12 50 @ 13 00
Standard Georgia car-wheel...	14 25 @ 15 00

New York, N. Y., October 9.

The business of the week has been quite satisfactory to sellers of pig iron. The volume of business has not been extraordinary, but in keeping with the trend of general trade, slightly expanding in a conservative and healthful way.

Northern makers of pig iron have advanced prices during the week, and sales are being made freely at the advanced figures, which are recognized as still reasonably low.

Bessemer-pig has shown considerable irregularity in price during the past week, because of the presence on the market of some speculative lots. These will find their way into consumers' yards at an early day, and the market will right itself readily.

The demand for foundry grades continues liberal, and supply of some brands quite inadequate. The largest producers of Southern pig iron have their order books so full that they will be taxed to their capacity limit to fill their engagements the next three months, and the leading Southern company will accept no orders for any grades for this year's delivery, except on condition that they be executed at their convenience.

Abroad, in spite of the great strike of the English engineers, stocks of pig iron continue to shrink, and prices are ruling higher than a week ago, permitting export of choice American brands, even at advanced cost on this side. The general market is in wholesome form, and indications favor a steady increase of business and higher prices as the year advances, notwithstanding the approach of the winter season, which usually retards the metal trade, because of the suspension of outdoor work.

We quote cash f. o. b. New York:

No. 1 X standard Alabama...	\$11 00 @ \$11 25
No. 2 X standard Alabama...	10 50 @ 10 75
No. 1 X lake ore coke iron...	12 50 @ 12 75
No. 2 X lake ore coke iron...	12 00 @ 12 25
Niagara coke malleable...	12 00 @ 12 25
Standard Georgia charcoal...	@ 15 50

Philadelphia, Pa., October 9.

The general situation in iron circles seems to be a strong one. Buyers are calling for shipments a little in advance of dates specified when orders were booked, and the indications all point to a heavy consumption. The demand is not limited to any one class of iron, but covers the entire list of coke and charcoal irons.

We quote for cash f. o. b. Philadelphia:

No. 1 X standard Alabama...	@ \$11 50
No. 2 X standard Alabama...	@ 11 00
No. 1 X lake ore coke iron...	@ 12 50
No. 2 X lake ore coke iron...	@ 12 00
Niagara coke, malleable...	@ 12 50
Standard Georgia C. C. ....	@ 15 75

ROGERS, BROWN & CO.



# CONSTRUCTION DEPARTMENT.

**THE MANUFACTURERS' RECORD** seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

\* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors.

## ALABAMA.

**Birmingham—Mineral Developments.**—Among the subjects to be considered by the Sloss Iron & Steel Co. at its meeting on November 4 will be the advisability of purchasing more mineral lands for development; J. W. McQueen, secretary.

**Birmingham—Iron-ore Developments.**—The Sloss Iron & Steel Co. will probably decide to develop extensively the brown iron-ore deposits near Leeds, twenty miles from Birmingham, and acquire additional lands in that neighborhood. At the special meeting to be held November 4 the developments will be considered. It is supposed that the cost of development will be about \$150,000 to \$200,000.

**Birmingham—Water Works.**—The Artesian Water Co., Caldwell Bradshaw and others, have been granted extension of time in which to construct their proposed water works, to which reference has previously been made.

**Horse Creek—Iron Mines, etc.**—The Ivy Coal Co. has purchased the Price Mines at Horse Creek and will develop same, enlarge operations, operate coke ovens, etc.

**Horse Creek—Iron Mines.**—The Dora Mining Co. intends to increase the output of its mines.

**Scottsboro—Gold Mines.**—C. F. Templeton intends, with associates, to develop some gold-bearing property.\*

## ARKANSAS.

**Little Rock—Grain Company.**—Incorporated: The Kramer-Mortimer Grain Co., capital stock \$5000, by Fred Kramer, H. N. Kramer and Walter Mortimer.

**Little Rock—Violin Factory.**—It is said that J. Albert Krug, of Detroit, Mich., contemplates the establishment of a violin factory in Little Rock.

**Little Rock—Gold Mining.**—It is reported that A. E. Gatchell, of Cincinnati, O., is interested in the development of gold mines near Little Rock, and will erect a smelter and other modern machinery to facilitate operations.

**Phoenix—Oil Mills, etc.**—Incorporated: The

**Phoenix Cotton Oil Co.,** by A. R. Woollen, James Swearingen, J. N. Parker, J. H. Du Bose and E. S. Elliott. The capital stock is \$50,000, and the company is authorized to conduct a general oil business, manufacturing and refining cottonseed oil, cottonseed meal and their products, and linting, delinting and decorticating cottonseed.

**Prairie Grove—Stave Factory.**—T. A. Terpening intends to engage in the manufacture of slack barrels, staves, etc.\*

## FLORIDA.

**Apalachicola—Lumber Mills.**—Incorporated: The Apalachicola Lumber Co., capital stock \$50,000, to manufacture lumber, operate mills, etc.; incorporators, C. T. Buffum, Charles J. Harris and A. L. Buffum.

**Palatka—Brick Works.**—A. Putnam, representing a brick manufacturing company of Utica, N. Y., has purchased site in Palatka on which to erect brick works.

**Pensacola—Sewerage System.**—The city officials are considering the adoption of a system of sewerage for the city. Address the mayor.

**Point Washington—Lumber Mills.**—The Cameron Lumber Co., for operating lumber mills, etc., has been incorporated, with capital stock of \$10,000, by J. J. McCarkill, John M. Garrett and John Cameron.

**Pollard—Lumber Mills.**—The Escambia Lumber Co. will expend \$10,000 in putting in new machinery and otherwise improving its mills.

## GEORGIA.

**Atlanta—Water Mains.**—The city council has approved plans to expend \$200,000 in new water mains, and arrangements will probably be completed soon. Address the mayor for information.

**Atlanta—Flour Mill.**—The Sweetwater Milling Co., of Sweetwater, Tenn., has purchased site in Atlanta, Ga., on which it will erect a flour mill of 800 barrels daily capacity. Company's representative in Atlanta, W. L. Hubbard, of Piedmont avenue.

**Augusta—Water Works.**—The city is now advertising for bids on the construction of its new water works and the furnishing of material. Plans and specifications are on file with Nisbet Wingfield, engineer, 414 Norcross Building, Atlanta; W. B. Young, mayor.\*

**Cedartown—Cotton Mill.**—The Cedartown Cotton Manufacturing Co. will treble its present mill; equipment is at present 4000 spindles; J. Wright Adamson, secretary.

**Columbus—Lumber Plant.**—Butts & Cooper will rebuild their burned lumber mills, expending about \$18,000 on the new factory.

**Columbus—Cotton Mill.**—The Muscogee Manufacturing Co. contemplates discarding its boilers and engines and installing in their stead an electric motor of 200 horsepower.

**Cordele—Water Mains, etc.**—The city will expend \$7000 on water works and street improvements. Address the mayor.

**Fitzgerald—Cigar Factory.**—The La Paloma Cigar Co. will establish a factory.

**Georgia—Gold Mine.**—Pope Bros., of Parkersburg, W. Va., have sold a Georgia gold mine for \$25,000, as stated last week. The purchaser is Gen. A. J. Warner and associates, who will fully develop the property. Washing and milling plants and other machinery will be installed.

**Macon—Machine Shops, etc.**—The Central Railway Co. will rebuild its burned \$100,000 machine and repair shops; H. M. Comer, president, Savannah, Ga.

**Savannah—Drainage System.**—The city is advertising for bids on the construction of the sewerage system previously noted. About forty miles of pipe sewers, etc., will be part of the work. Plans and specifications will be ready for examination soon. For information address committee on drainage, care clerk of council.\*

**Stillmore—Brick Works.**—The Stillmore Brick Co. has been organized, with the purpose of establishing brick works of 35,000 to 40,000 capacity daily.

## KENTUCKY.

**Lexington—Brewery.**—Incorporated: The Lexington Brewing Co., by T. C. Lang, J. Henry Zitt and John C. Schram, of Chicago. The capital stock is stated at \$200,000, and the company will erect at once the brewery noted last week as projected.

**Louisville—Candy Factory.**—H. P. McDonald is preparing plans for a candy factory

to cost \$20,000 for the F. A. Menne Candy Co.

**Mt. Sterling—Water Works.**—The city has awarded contract to J. M. Roach and associates for the construction of a municipal water-works plant.

**Paducah—Cordage Factory.**—Stearns & Toof will erect a cordage factory; bids for erection of building are about to be opened.

**Paducah—Singletree Company.**—Chartered: The Lack Singletree Co.; capital stock \$8000.

**Paducah—Glass Company.**—The Kentucky Glass & Queensware Co. has filed articles of incorporation, with \$14,000 capital. W. F. Parton is chief incorporator.

**Prestonsburg—Oil Wells, etc.**—The New Domain Oil & Gas Co. is drilling two new wells and erecting two iron tanks of 16,000 barrels capacity each.

## LOUISIANA.

**Gretna—Fertilizer and Phosphate Plant.**—A company has been organized to erect a fertilizer and phosphate plant in Gretna, on the property of the Union Oil Co. It is stated the capital stock to be invested is \$100,000, and that two brick structures, 60x200 feet each, will be erected, equipped with machinery of 20,000 tons annual capacity.

**New Orleans—Electric or Compressed-air Power Plant.**—The Orleans & Jefferson Railway Co. (office in Godechaux Building) will erect either an overhead trolley electric-power plant or a compressed-air power plant, definite decision regarding same to be made this month; power-house to be constructed of steel, with corrugated-iron roofing, and have installed 300-horse-power generator, two 300-horse-power boilers, with condensers, feed pumps, etc., 400-horse-power economizer, etc. If compressed air is decided on, this will be changed only as to generators and motors.\*

**Thibodaux—Telephone System.**—The Thibodaux Telephone Co. has been incorporated, with capital stock of \$2400, for the establishment of telephone systems, etc., by Roy Smith, Charles P. Shaver, John B. Taylor and others.

## MARYLAND.

**Baltimore—Lumber Company.**—Incorporated: The Delmarva Manufacturing & Lumber Co., by William W. Sinclair, Edward J. Murphy, John L. Unverzagt, Harry L. P. Reynolds and Clark T. Collins, with a capital of \$20,000.

**Baltimore—Woodworking Factory.**—The Baltimore Blind Co. has been incorporated by William Tegeler, Peter F. O'Hare, Henry F. Hohnberger, Frank J. Kohler and Campbell Carrington. The capital stock is \$50,000; purpose, to manufacture sash, doors, blinds, etc.

**Baltimore—The Monogram Co.** has been incorporated, with a capital stock of \$3000, by Charles F. King, M. Howard Mettee, Harry S. Focke, Thomas N. Cooper and Harry C. Galtner, to conduct a general merchandise business.

**Cumberland—Electric-light Plant.**—The city council has decided to accept plans of Frank B. Rae, of Chicago, for the proposed electric-light plant, estimated to cost \$19,000. For particulars address the mayor.

**Frostburg—Coal Mine.**—The Consolidation Coal Co. is reported as to drain and reopen the old Borden coal shaft.

**Williamsport—Car Works.**—It is stated that Samuel S. Miller, of Philadelphia, Pa., is endeavoring to arrange for the location in Williamsport of a plant for the manufacture of refrigerator cars; 1000 men will be employed if the factory is built.

## MISSISSIPPI.

**Hazlehurst—Water Works.**—An election will be held November 9 to consider issuing bonds for a water-works system. Address the mayor.

**Hazlehurst—Water Works.**—The election to decide definitely as to the construction of water works will be held November 9. Address the mayor.

**Hot Springs—Bridge.**—The county authorities have decided to appropriate \$11,000 for the construction of a bridge. Address the county clerk.

## MISSOURI.

**Joplin—Lead and Zinc Mines.**—The Grand Master Mining Co. has been organized, with capital stock of \$10,000, to develop lead and

zinc mines, etc.; F. W. Mott, president, of St. Louis, Mo.; F. J. Tygard, vice-president, of Butler, Mo., and A. F. Donnan, secretary, of Joplin.

**Kansas City—Grain Company.**—Chartered: The Traders' Grain Co., capital stock \$10,000, by P. H. Montgomery, S. C. Lee, L. Chamberlin and others.

**Milan—Electric-light and Water Works.**—The election on \$18,000 in bonds for water works and electric-light plant has resulted affirmatively. Address the mayor.

**Oronogo—Mining.**—Incorporated: The Gaddis Mining Co., capital stock \$10,000, by J. A. Gaddis, W. S. Sunning, John Dermott and U. Hendrickson.

**Sedalla—Coal Mine.**—J. R. Johnston will open up a coal mine on the property of Mrs. J. E. Bouldin, near Sedalla; equipment of machinery will be installed at once.

**Sedalla—Electric Lighting.**—The Missouri Heat & Light Co., by its attorney, Hugh Brennan, of Sedalla, has asked for franchise to light the city. In the event of obtaining franchise, a new plant may be erected.

**St. Louis—Moulding Company.**—Chartered: The Baxter Moulding Co., capital stock \$40,000, by C. O. Baxter, Charles Ottman and H. Naffs.

**St. Louis—Smelting Company.**—Incorporated: The Union Smelting & Refining Co., capital stock \$40,000, one-half paid, by Henry Thompson, S. G. Stahlheuth, W. A. Thomas, Este Thompson, J. W. Kemper, C. H. Huff and Charles E. Sargent.

**St. Louis—Coffee Company.**—Incorporated: The Teclotepec Coffee Co., capital stock \$25,000, by W. M. Hough, W. E. Hassett and H. C. Clark.

**St. Louis—Mining, etc.**—Incorporated: The Tanning Point Gold Mining & Milling Co., capital stock \$11,000, by Henry Stuckstedt and others.

**St. Louis—Mercantile.**—Incorporated: The Albert Acuman Mercantile Co., with a capital stock of \$10,000, by Albert Acuman, Jas. A. Abernathy, Mollie S. Acuman and Frank E. Adams.

**St. Louis—Manufacturing.**—Chartered: The Black Manufacturing Co., capital stock \$100,000, by John L. Black, D. L. Parish and J. P. Dawson.

**St. Louis—Construction Company.**—The R. B. McClure Construction Co. has filed articles of incorporation, with a capital stock of \$2000, all paid; R. B. McClure, H. H. Button and Henry Wood, incorporators.

**St. Louis—Construction Company.**—Chartered: The Boerveldt Construction Co., capital stock \$5000, by J. Boerveldt, J. F. Boerveldt and C. L. Moss.

## NORTH CAROLINA.

**Asheville—Electric-light Plant.**—Organized: The Asheville Electric Co., with Dr. John H. McAden, of Charlotte, N. C., president, and James H. Cutler, of Boston, Mass., secretary and treasurer; capital stock is \$200,000. The new company will take the property of the West Asheville Improvement Co., make substantial improvements and continue the electric-lighting business.

**Carthage—Cotton Mill.**—A movement is on foot for the erection of a cotton mill. R. H. Tyson and W. H. McNeill are interested.

**Charlotte—Pants Factory.**—The Southern Pants Co. intends to enlarge its factory building and increase capacity.

**Charlotte—Pants Factory.**—The pants company projected by Jos. H. Harrill, as noted several weeks ago, has been organized as the Piedmont Clothing Co., with a capital stock placed at \$30,000, privilege of increasing to \$50,000. Jos. H. Harrill, of Charlotte; Hugh Chatham, Paul Chatham, of Elkin, N. C.; J. A. Dyham, J. J. Sims, C. S. Donaldson and others are the incorporators.

**Clinton—Woodworking Factory.**—The Carolina Wood Veneer Works is equipping its factory, and expects to commence operations with new machinery November 1.

**Goldsboro—Sewerage.**—The city has ordered an election for November 8 to vote on issuing \$50,000 in bonds for a sewerage system. Address the mayor.

**Sanford—Clothing Factory.**—A. L. McNeill, W. A. Monroe and W. J. Edwards have incorporated the Sanford Clothing Manufacturing Co., with capital stock of \$10,000, for clothing manufacturing, etc.

**Wilkesboro—Telephone System, Electric-light Plant, etc.**—The Wilkesboro Telephone



Co. has been incorporated, with capital stock of \$100,000, for the purpose of establishing telephone systems, electric-lighting plants, water works and other municipal enterprises, etc., by J. E. Finley, T. B. Finley and W. M. Absher Lumber Co., of North Wilkesboro, N. C.; R. A. Spainhour, J. W. White and R. A. Deal, of Wilkesboro.

Wilmington—Lumber Mills.—The Kidder Lumber Co. has been incorporated, with capital stock of \$50,000, by Frederick and George Kidder and Robert Cantwell.

#### SOUTH CAROLINA.

Bath—Cotton Mill.—The Aiken Manufacturing Co. is now completing enlargement to its mill building (reported last May), to accommodate 12,000 spindles and 300 looms, which are to be installed. This gives the company 27,000 spindles and 720 looms. Now reports state that the company will duplicate the present plant.

Charleston—Scale Works.—Chartered: The Carolina Automatic Scale Co., to manufacture and sell the automatic weighing machines and apparatus patented by Benjamin Simons. The incorporators are George A. Wagener, Benjamin Simons and Ashley C. Tobias. The capital stock is to be \$50,000.

Charleston—Electric-light Plant.—The Charleston Cotton Mills has contracted for the installation of an electric-light plant in its factory.

Charleston—Ice Factory.—Incorporated: The Mutual Ice Manufacturing & Cold Storage Co., by Wm. A. Wheeler, of Cincinnati; Thos. L. Boyne, of New Orleans; A. L. Treadwell, of Boston; J. E. Burke and Harmon R. Luhn, of Charleston.

Charleston—Ice and Cold-storage Plant.—A company has organized and applied for charter to engage in ice manufacturing; factory will be built at once and a cold-storage house constructed; site has been purchased for \$20,000. J. E. Burke can give information.

Chester—Telephone Company.—Chartered: The Chester Telephone Co., by Messrs. A. W. Love, G. B. White, I. N. Cross, S. M. Jones and A. M. Alken. The capital stock is \$2000.

Columbia—Cotton Mill.—The Elmwood Manufacturing Co., previously reported as chartered, has awarded contract for 10,000 spindles and 250 looms for its proposed cotton mill, which is to be operated by colored operatives. W. S. Monteith can be addressed.

Dillon—Mercantile, etc.—Chartered: By J. H. Stafford, Allen Edens, R. P. Hamer, L. B. Rogers, A. J. C. Cottingham and T. B. Stackhouse, the Dillon Banking & Wholesale Grocery Co., with a capital of \$25,000.

Graniteville—Cotton Mill.—The Warren Manufacturing Co. (whose 30,000-spindle and 675-loom mill was completed recently) is reported as contemplating putting in 30,000 spindles additional; E. F. Verdery, Augusta, Ga., president.

#### TENNESSEE.

Athens—Typewriter Factory.—The Fisher Typewriter Co. has purchased for \$15,000 a building 300x42 feet, two stories high, into which it will remove its plant for the manufacture of typewriters.

Chattanooga—Chemical Works.—The Young Men's Business League is in receipt of a letter from E. W. Webb, of Providence, R. I., relative to establishing in the South a plant for the manufacture of chemicals used in dyeing works.

Circle—Irrigation System.—E. F. Sharp will construct an irrigating system.\*

Covington—Hardware Company.—Incorporated: The Covington Hardware Co., by Henry D. Rose, Wm. C. Boyce, Herbert Hamilton, Wm. T. Hamilton and Wm. Hamilton; capital stock \$4500.

Elizabethton—Cotton Mill.—The Tennessee Cotton Mills has been incorporated, with a capital stock of \$100,000, to erect and equip a mill for manufacturing a line of cotton utilized by the manufacturers of seine twine, etc. L. A. Briggs, of Ashaway, R. I., is president; L. Godfrey, of Providence, R. I., vice-president; F. Hill, Ashaway, R. I., secretary-treasurer, and M. E. Clarke, Elizabethton, general manager.

McMinnville—Electric-light Plant.—The city has arranged for the purchase of the electric-light plant owned by a private company. The entire plant will be enlarged and improved with new machinery. Address the mayor.

Nashville—Publishing.—The W. R. Crabtree Publishing Co., capital stock \$10,000, has been incorporated by W. R. Crabtree, John H. Crabtree, B. M. Crabtree, S. P. Stover and J. H. Crabtree.

Nashville—Telephone Franchise.—The city

council has granted franchise to the Southern Telephone Co.

Tullahoma—Electric-light Plant.—An electric-light company has obtained franchise for erection of a lighting plant, and will erect same at once. The mayor can be addressed for information.

#### TEXAS.

Beaumont—Irrigation System.—Incorporated: The Green & Strengele Irrigation Co., capital stock \$40,000, for erecting and maintaining a canal, with all necessary reservoirs, lakes, wells, flumes, laterals and other appurtenances for irrigation, milling, navigation, etc.; directors and incorporators, W. W. Green, Catherine Serengele and George H. East.

Canadian—Water Works.—Efforts are being made to construct water works, as was reported last week. A committee, composed of J. A. Chambers, George Gerlach and D. J. Young, is investigating the subject and receiving bids.\*

Dallas—Medicine Factory.—Incorporated: The Tabor Medical Co., capital stock \$30,000, to manufacture, advertise and sell proprietary medicines, etc.; incorporators, Benjamin C. Tabor, M. D.; B. C. Tabor, Edwin J. Keist, W. F. Keist, W. A. Throp and F. P. Holland.

Greenville—Clothing Factory.—Ed. Schiff is endeavoring to arrange for the establishment of a factory for producing overalls, waists, shirts, trousers, etc.

Houston—Orchard Company, etc.—Chartered: The South Texas Orchard and Canning Association, capital stock \$10,000, for the maintenance of a nursery and the erection and operation of a cannery, etc.; incorporators, J. D. Freeman, O. B. Cecil and J. H. Bothwell.

Huntsville—Water Works.—Plans and specifications are now being prepared for the water works recently noted. A \$12,000 plant will probably be installed, with stand-pipe. No machinery will be needed, as the necessary pumping will doubtless be done by a company now prepared to do so; J. G. Ashford, mayor.\*

Riesel—Mercantile.—Incorporated: The Zac Wilson Co., capital stock \$5000, to do a general merchandise business; incorporators, Daniel Well, of Waco; Alexander Well, of Waco, and Zac Wilson, of Riesel.

#### VIRGINIA.

Alexandria—Air-power Plants, etc.—Incorporated: The Cyclone Air Power Co., to manufacture appliances for gathering cotton, fruit, hops, etc., and to make and sell air machines. The capital stock is to be \$500,000. George B. Hoyt, of Westfield, N. J., is president; George S. Lee, of Hawthorne, N. J., vice-president; Albert T. Otto, of New York, secretary, and Emuel L. Gifford, of New York, treasurer.

Lynchburg—Tobacco Company.—Chartered: The Allen Bros. Tobacco Co., composed of H. A. Allen, Jr., W. D. Allen, Louise O. Allen, J. Gordon Payne and Julia B. Payne; H. A. Allen, Jr., president; W. D. Allen, vice-president, and J. Gordon Payne, secretary and treasurer.

Manchester—Telephone Company.—Incorporated: The Southside Telephone Co., to construct and operate a telephone exchange, by John C. Robertson, Chesterfield county, president; W. R. Johnston, Richmond, Va., secretary and treasurer; William B. Cox, H. C. Beattie, A. L. Adamson and George E. Gary. The capital stock of the company is \$30,000.

Norfolk—Horse Company.—Chartered: The Norfolk Horse & Mule Co., to conduct a live-stock business, capital stock \$10,000; officers, W. P. Boyce, president; C. C. Mercer, vice-president, and T. B. Knight, secretary and treasurer.

Norfolk—Marine Railway.—Charles J. Colonna's new marine railway, noted last week, will cost about \$25,000; capacity, 1000 tons.

Norfolk—Stock-yards.—J. M. Cason and H. L. Sullies, of Baltimore, Md., are in Norfolk, contemplating the establishment of stock-yards.

Petersburg—Produce Company.—Chartered: The Bridges Produce Co., organized to buy and sell produce and provisions. John H. MacIn is president.

Richmond—Tobacco Factory.—Incorporated: The J. B. Pace Tobacco Co., for the purpose of buying, selling and manufacturing tobacco, cigarettes, cigars and snuff. The capital stock is \$100,000; officers, Ernest Ehrman, New York, president, and John H. Nelmyer, of Richmond, general manager, and Newton Ehrman, of New York, secretary. The directors are the above, Albert Arnstein and Arthur M. Elsig.

#### WEST VIRGINIA.

Charleston—Construction Company.—Incorporated: The Western Construction Co., to construct locks and dams, improve rivers and harbors, construct railroads and tramways, bridge piers and tunnels, etc. The capital stock is \$50,000, all paid in, with the privilege of increasing to \$300,000. The incorporators are Frank M. Thomas, Thomas A. Sheridan and George R. Tait, of Buffalo, W. Va.; D. B. Truax and Nehemiah Martin, of Hastings, Minn.

Mannington—Electric Lights.—The Mannington Light Co. has been incorporated, with capital of \$50,000, by A. L. Prichard and others.

Parkersburg—Gas and Oil Wells.—Chartered: By Jesse Finsterwald and others, of Athens, O., the Southern Oil & Gas Co., with capital of \$30,000.

Wheeling—Glass Works.—A movement is on foot for the resumption of operations in the Hobbs Glass Works. It is proposed to organize a company with capital stock of \$100,000, half of which is said to have been already taken. August Frohme can be addressed for information.

#### BURNED.

Armstrong, Mo.—Flour mill of C. H. Yancy; loss \$10,000.

Black Rock, Ark.—Handle factory of Mr. Decker.

Bowling Green, Miss.—Cotton gin of Shelby Bros.

Bridgeport, Ala.—Saw mill of W. J. Wallace; loss \$1000.

Brookhaven, Miss.—Cotton gin of Thos. W. Lincoln; loss \$1200.

Cisco, Texas.—Cotton gin of R. C. Malone; loss \$5000.

Concho, N. C.—Grist mill, saw mill and cotton gin of J. D. Taylor.

Conyers, Ga.—Cotton gin of D. H. Roberts.

Cotton gins of Wm. Osborne, Vernon Lake, Ala.; W. H. Johnson, Shreveport, La.; Geo. Harvey, Canton, Miss.; Walter Colquitt, West Bend, La.; Hobbs & Bryan, Dexter, Ga.; J. B. O'Kelley, Ashewood, La.; J. H. White, Flatonia, Texas; Mrs. W. R. Tull, Kinston, N. C.; Joseph Adamek, Wesley, Texas.

Culloden, Ga.—Cotton gin of C. Gray Hillsman.

Foresthill, La.—Saw mills, planing mill, dry-kilns, etc., of the Forest Hill Lumber Co.; loss \$30,000.

Iuka, Miss.—Cotton gin of W. A. Broughton.

Jackson, Tenn.—Cotton gin of Sam Mathis.

Macon, Ga.—Repair shops of the Central Railway Co.; loss \$75,000.

Nashville, Tenn.—Planing mills of J. R. Ransom & Co.; loss \$19,000.

New Orleans, La.—Cooperage of Tracy & Sidoti; loss \$12,000.

Raleigh, N. C.—Cotton gin of Geo. Mitchener.

Richburg, Miss.—Planing mills of C. W. Rich; loss \$20,000.

Rockdale, Texas.—Cotton gin of Coffield & Williams; loss \$6000.

Savannah, Ga.—Planing mill of Savannah Lumber Co.

Shelby, N. C.—Cotton gin, saw and grist mill of E. C. Border & Co.

#### BUILDING NOTES.

Atlanta, Ga.—Courthouse.—Bids will be opened November 6 for the construction of a courthouse for the county of Wilcox. Plans and specifications are by Andrew J. Bryan & Co., and now on file with the board of commissioners; J. N. Evans, clerk of board.

Charleston, Miss.—Schoolhouse.—The city will issue \$1500 in bonds for the erection of a schoolhouse. Address the mayor.

Charlotte, N. C.—Factory Building.—J. A. Durham may erect a factory building three stories high.

Charlotte, N. C.—Warehouse.—A company will organize to erect a large fireproof warehouse, with modern equipments. J. H. Sloan, George H. McFadden and others are interested.

Chattanooga, Tenn.—Business Building.—Contract has been awarded to J. D. Hunt at \$36,000 for the erection of a business building four stories high, 110x200 feet.

Columbia, S. C.—Warehouse.—E. W. Robertson and associates will build a warehouse on a four-acre lot, of six compartments, 50x100 feet each. Two other warehouses of seven or eight compartments, 50x100 feet each, will be built later on.

Danville, Va.—Business Building.—J. & J. Kaufman contemplate the erection of a business structure.

Dunn, N. C.—Jail.—The town jail, recently burned, will be rebuilt as soon as plans can be prepared and proper arrangements made. Address M. L. Wade, clerk of council.

Elon College, N. C.—Depot.—The Southern Railway will build a depot at Elon College; D. W. Lum, superintendent of buildings, Atlanta, Ga.

Gibson, Ga.—Jail.—Glascock county will build a \$3500 jail. Address the county clerk.

Magnolia, Miss.—Jail.—Contract for remodeling the Pike county jail will be awarded December 6. Specifications now on file in county clerk's office. W. C. Vaught, clerk, can be addressed for further information.

Middletown, Md.—Electric Powerhouse.—The Frederick-Middletown Electric Railroad Co. has decided to erect a new powerhouse, 74x94 feet, of frame.

Parkersburg, W. Va.—Convent.—Contract for construction of Visitation Convent, after plans by Daley & Gunn, of New York, has been awarded to the A. F. Withrow Lumber Co., of Charleston, W. Va.; structure is to cost \$40,000.

Raleigh, N. C.—Clubhouse.—Contract for the erection of the Capitol Clubhouse has been awarded to Isadore Itner, of Atlanta, Ga., at \$19,000.

Roland Park, Md.—Clubhouse.—Wyatt & Nolting, of Baltimore, have prepared plans for a \$25,000 clubhouse, which is proposed to be erected in Roland Park. The Roland Park Co. can be addressed.

Sedalia, Mo.—Hotel.—Plans are being prepared for the reconstruction of the Hotel Kaiser at a cost of about \$20,000. J. Huckins, Jr., manager, can be addressed.

Stillmore, Ga.—Bank Building.—The Bank of Stillmore may erect an office building.

Stillmore, Ga.—Residence.—W. M. Durden will erect a residence at a cost of about \$2500.

Stonega, Va.—Dwellings.—The Virginia Coal & Coke Co. expects to build 100 dwellings for its operatives.

Sylvester, Ga.—Store, etc.—Thomas K. Helms, of Albany, Ga., has let contract to C. D. Smith, of Albany, Ga., for the erection of a store and a residence to cost \$4000 each.

Union, S. C.—Warehouse.—The Union Warehouse Co. has been incorporated by Emslie Nicholson, George C. Perrin and T. C. Duncan. The capital stock is to be \$1000.

Washington, D. C.—Clubhouse.—The Concordia Clubhouse will be improved at a cost of about \$13,000; heating plant, electric lights, etc., will be installed; plans by A. B. Mullett & Co.

Washington, D. C.—Residences, etc.—S. M. Carr will build a brick residence to cost \$3500, have furnace heat, electric appliances, etc. C. H. Gladden has planned a block of five residences to cost \$2500 each, to have electric bells, tiled baths, etc. A. B. Morgan has planned two dwellings for Louisa O. Tompkins to cost \$5000, have cabinet mantels, tiled baths, call bells, etc. Edw. S. Exley has completed plans for two dwellings for Thomas Summerville & Son.

Williamsburg, Va.—Bank Building.—The Peninsula Bank confirms the report that it will build a bank building to cost about \$3000.

#### RAILROAD CONSTRUCTION.

##### Railways.

Baltimore, Md.—The Baltimore, Halthorpe & St. Denis Railway Co. has secured the franchise from the Baltimore county commissioners to build its electric line between the southwestern city limits and the towns mentioned in Baltimore county. Wm. Ingle, at the Merchants' National Bank of Baltimore, is one of the company.

Bear Spring, Tenn.—It is reported that grading has been completed along the line of the Tennessee Northern road, which is being built from a point on the Louisville & Nashville line to Bear Spring by J. H. Lory, manager of the Cumberland Lands Estate. Contracts have been made for the rails, and it is reported that rolling stock may be purchased in the near future. It is also reported that a further extension may be made from Bear Spring to a connection with the Illinois Central system.

Brownsville, Texas.—It is reported that the business men of Hidalgo and Cameron counties have secured a bonus of \$150,000 in cash and real estate, which was asked by



the Chicago, St. Louis & Texas Railroad Co. to insure the building of this road through the counties mentioned. It is reported that work is to begin by July 1, 1898, and the road to be completed within two years from that date. William Kennedy (temporary address San Antonio, Texas) is chief engineer.

Deckerville, Ark.—E. M. Ford, president of the Deckerville, Osceola & Northern Railroad Co., advises the Manufacturers' Record that the company intends to make an extension of twenty-one miles to Osceola as soon as possible, in addition to about eight miles of sidings. It is intended eventually to extend the line through Mississippi county, Arkansas, and New Madrid county, Missouri, to a connection with the St. Louis Southwestern Railroad at Pawpaw Junction. The length of the line complete to this point will be about 100 miles, and is to be laid with 56-pound rail.

Elkins, W. Va.—President Henry G. Davis, of the West Virginia Central & Pittsburgh Railroad Co., advises the Manufacturers' Record that an extension from Beverly to Huttonsville is contemplated. The plans have not been completed as yet. Surveys are being made for this road.

Franklin, La.—The Franklin & Abbeville Railroad Co. has been organized for the purpose of building a line through the parishes of St. Mary's, Iberia and Vermilion, to extend from Franklin to Abbeville. The capital is \$50,000. The board of directors include Donelson Caffery, president; Matthew Bell, secretary; Charles E. Rice, treasurer, and Thomas Sully, superintendent. The main offices of the company will be located at New Orleans.

Huntington, Ark.—Martine Theurer and W. A. Bright, of Little Rock, are agitating a railroad line between Huntington and Booneville, in Logan county, Ark. It is understood that donations of land and right of way are being received in aid of the project. The line is to be about fifty miles in length.

Kansas City, Mo.—The Kansas City, Pittsburg & Gulf Railroad has completed its branch between Kansas City and Smithfield, Mo., and has opened it for traffic.

La Grange, N. C.—A correspondent of the Manufacturers' Record states that the company recently formed at Snow Hill, N. C., to promote the La Grange Railroad is working with the view of having the Atlantic & North Carolina Company build a portion from La Grange to Snow Hill, a distance of about ten miles.

Little Rock, Ark.—It is reported that John G. Lonsdale, receiver of the Little Rock & Hot Springs Railroad Co., has been making financial arrangements to complete the line from Little Rock to Hot Springs. The money, it is stated, will be furnished by a New York syndicate.

Loganville, Ga.—Among the parties who are interested in building a railroad between Loganville and Lawrenceville to connect with the Seaboard Air Line are Nathan Bennett, W. H. Braswell and W. F. Robertson. The branch has already been surveyed, and will be about twelve miles in length.

Lumberton, N. C.—It is reported that surveys have been completed for the proposed railroad line between Lumberton and Marion, S. C., a distance of forty-five miles.

McKinney, Texas.—A company is being formed to build a railroad line between McKinney and points in the Elm valley. Among those interested are J. B. Kimbrough, W. R. Matthews, J. B. Bell and others.

Point Marion, W. Va.—It is reported that work has begun upon the railroad line proposed between Point Marion and Southern Pennsylvania.

Queenstown, Md.—It is reported that right of way for the proposed extension of the Queen Anne's Railroad, in Maryland, has been secured. This extension is proposed between Queenstown and Elkton, by the way of Centerville and Chestertown. It would be about sixty miles in length. I. W. Troxel, at Queenstown, is chief engineer, and Wm. H. Bosley, of Baltimore, president of the company.

Shreveport, La.—Surveys for the Baton Rouge & Central Louisiana Railroad are now being made along the Red river valley, and will be completed in a few days. This line is being promoted by F. M. Welch, of Alexandria, La., also Wm. Edenborn, president of the White Cliffs Cement Co., of Chicago, Ill.

Stillmore, Ga.—It is reported that nearly 500 men are at work on the railroad between Bruton and Pineora. It is expected to complete the line to Pineora by the way of Stillmore, making the total extension about sixty-nine miles in length. A. F. Daley represents the owners of the road.

G. M. Brinson, at Stillmore, is reported as superintendent.

Valdosta, Ga.—The Atlantic, Valdosta & Western Railroad Co. has been organized, with a minimum capital of \$100,000, to build a railroad between Valdosta and the Florida State line. The road is to be about seventy-five miles long, extending through Lowndes, Echols, Clinch and Charlton counties. Among those interested are G. S. Baxter & Co., E. C. Long, George Graham and H. Tabb, all of Haylow, Ga., and J. W. English, of Atlanta. This company will utilize the railroad, about twenty-seven miles long, which is owned by G. S. Baxter & Co., and which will be extended.

Washington, D. C.—It is reported that the Washington & Chesapeake Beach Railroad Co. has let contracts for grading to Green & Burroughs, of Upper Marlboro, Md. Surveys are now being completed for the entire line, which is to be twenty-eight miles in length. Otto Mears is president, and L. H. Hyer, Fifteenth and H streets, Washington, is chief engineer.

White Sulphur Springs, W. Va.—It is reported that work has begun upon the proposed line to be built to a connection with the Chesapeake & Ohio at White Sulphur Springs, along the Greenbrier valley. It will be an extension of the Dry Fork road. [This is the road which, it is reported, is to be built by a syndicate in which Cornelius Vanderbilt, W. Seward Webb and H. McKay Twombly, all of New York, are interested.—Ed.]

#### Street Railways.

Baltimore, Md.—Messrs. J. G. White & Co. have secured the contracts for the extension of the City Passenger Railway's electric lines in Northeast Baltimore. Walter S. Franklin is president of the railroad company.

New Orleans, La.—Robert R. Zell, chief engineer of the Orleans & Jefferson Railroad Co., advises the Manufacturers' Record that all contracts for the construction of this line will be let by November 15. It is proposed to use either compressed air or overhead trolley system. The line will consist of seventeen miles of track, laid with 60-pound T rails and 80-pound girder rails. Six bridges over canals will be constructed of iron on pile foundations. The company will require twelve cars, each forty feet in length, to have double tracks and to have the double equipment of 50-horse-power motors if electricity is used. Both wood and iron poles will be used. It expects to have the road ready for operation by May 1, 1898.

Pensacola, Fla.—The Pensacola Electric Terminal Railroad Co. has received letters patent to operate and construct electric railways in the city. Its capital is \$200,000. [This is the company in which W. H. Bosley, Douglas H. Gordon and others, of Baltimore, are interested, and which is now constructing a street railway in the same place.—Ed.]

Pine Bluff, Ark.—It is reported that another plan has been taken up to build an electric street railway in Pine Bluff, and that a company will be formed, if citizens will subscribe \$15,000 toward the capital stock. Mayor Bell will give further information.

San Antonio, Texas.—Oscar Bergstrom, one of the incorporators of the San Antonio Railroad Co., states that this line will be about one mile in length, to connect the Southern Pacific road with an industrial plant in the suburbs. It will be used for freight, and will be operated by electric power.

Washington, D. C.—It is reported that the Capital Traction Co. has finally determined to use electric motive power and to discard the cable entirely. It is understood that the underground conduit will be used. D. S. Carl is chief engineer of the company.

Washington, D. C.—The Capital Traction Co. has let a part of the contracts for its underground conduit electric system. Edmund Saxton is the contractor for the street work. The contracts for equipment have not been let as yet. A construction committee has been appointed, consisting of Geo. D. Dunlop, Henry Hult and S. L. Phillips.

New Electric Elevator.—A new electric elevator for passengers and freight is about to be introduced by the Agnitage-Herschell Co., of North Tonawanda, N. Y. Owing to the rapidity with which an elevator and its load must be started, stopped and reversed, it has been difficult to construct electric elevators to give perfect satisfaction, but in this new elevator the Agnitage-Herschell Co. has introduced friction gearing in such a manner as to give, so the manufacturer claims, this satisfaction. For additional information address the company as above.

#### Machinery, Proposals and Supplies Wanted.

**Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.**

Bark Mills.—O. H. Blocker, Old Fort, N. C., wants to correspond with makers of bark-grinding mills.

Blowing Engine.—The Sloss Iron & Steel Co., Birmingham, Ala., will buy a new and large blowing engine, duplicating its present one.

Boller.—The city of Asheville, N. C., will open proposals November 12 for boiler to drive pumping engine of 1,500,000 gallons capacity per twenty-four hours. See "Pumping Engine," below. (Also see advertisement in Manufacturers' Record.)

Boiler Accessories.—A. Du Mont Allen, Mount Morris, N. Y., is in the market for feed-water heater and steam or belt pump to supply a 12-horse-power boiler.

Boller and Engine.—Eagle Machine Works, Fredericksburg, Va., are in the market for a good second-hand engine and boiler on skids, fifteen to sixteen horse-power, suitable for saw mill. Also want 10 to 15-horse-power detached engine.

Boller and Engine, etc.—Baldwin & Co. & Geise, Dawson, Ga., want to buy a good second-hand engine, automatic cut-off, with heater, engine to have 75 to 100 horse-power and heater 100 to 125 horse-power. Also will want in January or February a 100 to 125-horse-power boiler.

Can Machinery.—The Newnan Canning Factory, Newnan, Ga., wants machinery for the manufacture of cans (new or second-hand).

Cider and Vinegar Machinery.—B. H. Hodges, Albany, Ga., wants addresses of makers of machinery used in cider and vinegar manufacturing.

Compressing Machinery.—The Sumter Cotton Oil & Fertilizer Co., Sumter, S. C., wants addresses of manufacturers of presses for baling cottonseed hulls and a press for pressing hulls in bags.

Crate Manufacturers.—The Weekes Manufacturing Co., Macon, Ga., wants addresses of manufacturers of crates of thin slats and wire.

Electric-light Plant.—The city of Milan, Mo., will soon arrange for the purchase of electric-light plant and water-works system, at a cost of \$18,000; William McClanahan, mayor.

Engine.—See "Saw-mill Equipment."

Gold-milling Machinery.—See "Mining Machinery."

Grinding Mills.—See "Bark Mills" above.

Holting Engine.—The Chesapeake Bay Construction Co., Fifteenth and H streets, Washington, D. C., is in the market for a double-cylinder, double-drum, light steam holting engine.

Horse-collar Machinery.—W. N. Matthews, Pittsboro, Ala., wants to buy machinery that will plait poplar and other barks into a three-string plait, used in making horse-collars.

Hose.—See "Pumping Engine."

Implement Works.—J. W. Place & Co., 69 Wall street, New York, want addresses of manufacturers of machinery used in shovel manufacturing.

Mining and Milling Machinery.—C. F. Templeton, Scottsboro, Ala., wants machinery for mining and milling gold ores.

Pile-driver.—See "Railway Equipment."

Plaiting Machinery.—See "Horse-collar Machinery."

Printing Machinery.—The Lynchburg Box Co., Lynchburg, Va., wants to buy machinery for box printing (second-hand Miller make preferred).

Pumping Engine.—Proposals will be opened November 12 for supplying to the city of Asheville, N. C., one horizontal, triple-expansion, direct-acting duplex condensing engine, capable of delivering 1,500,000 gallons of water in twenty-four hours, against a total head of 198 pounds per square inch, and one boiler of power to drive the pump-

ing engine. Specifications supplied, on demand, by the clerk. (See advertisement in Manufacturers' Record.)

Pumping Engines.—E. F. Sharp, Circle, Tenn., wants to buy a pumping engine (about six horse-power) for irrigation purposes; also wants hose, etc.

Railway Equipment.—The Chesapeake Bay Construction Co., Fifteenth and H streets, Washington, D. C., will want about 3000 tons of 60-pound standard rails; also in the market for hand and horse-power pile-driver and a double-cylinder, double-drum light steam holting engine.

Railway Equipment.—The Orleans & Jefferson Railway Co., Godchaux Building, New Orleans, La., will buy six 40-foot closed cars and six 40-foot open cars, both double truck, with cross seats caned.

Railway Equipment.—The Cameron-Barkley Co., Charleston, S. C., is in the market for second-hand saddle-tank locomotive, cylinder nine or ten inches in diameter, 14 to 16-inch stroke, three-foot gauge.

Saw Mill.—I. S. Ledbard, Cherrylog, Ga., wants to buy a saw-mill equipment, complete.

Saw-mill Equipment.—June Bros., Hammond, La., want to purchase an engine, 60 to 80-horse-power, high speed, automatic, three-saw medium gang-edger, carriage and track, etc., for saw mill of 15,000 feet capacity; new or second-hand machinery will answer.

Sewerage.—Bids will be opened November 15 for the construction of drainage system for city of Savannah, Ga. The work will consist approximately of forty miles of pipe sewers, with appurtenances, etc. Complete plans and specifications will be ready for examination after November 1 at office of city engineer. For further particulars address committee on drainage, care clerk of council. (See advertisement in Manufacturers' Record.)

Shavings.—The Eagle Glass & Manufacturing Co., Wellsburg, W. Va., wants to buy baled shavings in carload lots.

Tanneries.—O. H. Blocker, Old Fort, N. C., wants to correspond with tanneries using chestnut-oak bark.

Telephone Equipment.—G. A. Gillett & Co., Daytona, Fla., want 2000 pounds No. 17 galvanized wire, 2000 pony insulators, pins for latter; 75 'phones of 10,000 ohms each; a No. 100 switchboard, with common hand generator and for a ground system.

Tin.—The Callahan Manufacturing Co., Washington, La., wants perforated tin for panels for kitchen safes.

Toothpick Machinery.—James H. Gardner, Palenville, N. Y., wants machinery for manufacturing toothpicks.

Water Works.—The city of Huntsville, Texas, will need a standpipe for water works; J. G. Ashford, mayor.

Water Works.—The city of Milan, Mo., will soon arrange to buy water-works system and electric-light plant at a cost of \$18,000; William McClanahan, mayor.

Water Works.—Wanted.—Estimates on water works, complete, to be constructed at Canadian, Texas, system to include 2000 feet of six-inch water mains, 5000-gallon pine tank, forty feet high; fifteen fire-plugs, to fit six-inch pipe, with 2½-inch size double-size connection; gasoline engine and force pump, to force water up through six-inch mains a distance of about 1800 feet from well to tank in an incline of about 150 feet from bottom of hill to bottom of tank, capacity of pump to be 10,000 gallons hourly; cotton hose in sizes ¾ to 2½ inches, galvanized pipe per foot in sizes from ¾ to 2½ inches, etc. For further particulars address J. A. Chambers, committee chairman, Canadian, Texas.

Water Works.—Bids are invited, to be opened November 8, on the construction of the proposed new water works for the city of Augusta, Ga., the work to include reservoir of 50,000,000 gallons capacity, filter plants of 6,000,000 gallons capacity, pumping machinery of 12,000,000 gallons capacity, with turbine wheels, flumes, draft tubes, 5800 tons of cast-iron pipe and specials, 18,700 lineal feet of 30-inch steel riveted pipe, pumping station, filter-house, pipe-laying, etc. Plans and specifications now on file at office of Augusta city engineer and at office of Nisbet Wingfield, 414 Norcross Building, Atlanta, Ga.; W. B. Young, mayor, Augusta, Ga.

Woodworking Machinery.—Jas. H. Gardner, Palenville, N. Y., wants machinery for manufacturing toothpicks.

Woodworking Machinery.—H. C. McCamant, Clifton, Ariz., wants prices on foot-power machinery for carpenter shops.

Woodworking Machinery.—T. A. Terpening, Prairie Grove, Ark., wants prices on slack-barrel machinery, such as heading



turner, planers, stove cutters, trimmers, hoop-saws and pointers, etc.

**Woodworking Machinery.**—The Callahan Manufacturing Co., Washington, La., wants graining tools or roller outfit to transfer grain of hardwood to panels of armour doors; also a small saw mill (band) to cut 10,000 to 25,000 feet of cypress daily, and perforated tins for panels of kitchen safes.

### TRADE NOTES.

**Steel Bridge.**—Contract has been awarded to the Virginia Bridge & Iron Co. for the erection of a steel bridge across the North river at Buena Vista, Va.

**Buckeye Engines.**—The demand for Buckeye engines continues, so the manufacturer reports, and a number of sales have been made recently throughout the country of different size engines. The fame of these engines has made the name of the Buckeye Engine Co., of Salem, O., one of the most prominent among engine-builders in the country.

**Riding Galleries.**—The reported burning of the Armitage-Herschell Co.'s factory, at North Tonawanda, N. Y., was incorrect. It was merely a factory building, occupied by another firm, which the company happened to own, that was burned. The Armitage-Herschell Co. is prepared, therefore, to furnish its riding galleries to customers as heretofore—at short notice.

**Railway Equipment.**—Messrs. Poulterer & Co., of Philadelphia, Pa., report sales of a number of locomotives throughout the South. This firm shipped last week a large freight engine to the Gulf & Interstate road, at Beaumont, Texas, and one to the Colorado Valley Railway, at Sweetwater, Texas. They have a number of orders booked for delivery in the near future.

**Fuel Economizers.**—Recent orders for Green's economizer for steam boilers have been received from some of the prominent manufacturing companies of the country. Some very recent orders came from eleven textile mills, two of which are in Canada. The Fuel Economizer Co., of Matteawan, N. Y., is sole maker, in the United States, of the economizer in reference.

**Boilers.**—Contract for furnishing the power plant of the Transmississippi & International Exposition at Omaha, Neb., has been awarded to the Clonbrock Steam Boiler Co., of Brooklyn, N. Y. This company reports bright prospects in its line, many orders being constantly coming in. Some recent sales of boilers by the company amounted in the aggregate to over 14,000 horse-power.

**Water-wheel Contracts.**—The S. Morgan Smith Co., of York, Pa., has secured a contract from the Muscogee Manufacturing Co., Augusta, Ga., for furnishing three 54-inch McCormick wheels and entire new outfit of power connections, including rope drive. The Smith Company has also received an order from the Jordan River Electric Generating Co., Salt Lake City, for 1500-horse-power turbine wheels, 75-foot head. This last contract represents in round numbers about \$17,000.

**Handle Bars, etc.**—The entire handle-bar and plating plant of the Illinois Handle Bar Co., at Chicago, has been purchased by Mr. Geo. G. Spencer, of 165 Jackson street, Chicago, Ill. This addition will enable Mr. Spencer to furnish a larger and more varied product, the quality of which will be high grade in every particular. Handle bars, rear forks, rear stays, fork sides, seat posts, stems, frames, hubs, pedals, wrenches and cold seamless steel tubing are among the product.

**Plow Works.**—The Syracuse Chilled Plow Co., of Syracuse, N. Y., has purchased the entire business of the Economist Plow Co., of South Bend, Ind., manufacturer of the "Solid Comfort" sulky and gang plows. The stock and machinery will be moved to Syracuse, where ample facilities are located for turning out all the goods the trade may require. It will be the company's aim to retain the high standard of the goods furnished by its predecessors; also to embody such improvements as may be found necessary to continue these plows as leaders upon the market.

**Nicholson Files.**—There are some lines of goods so distinctive in character, so confined to their use to particular trades and purposes, and so subject to critical examination, that there is opportunity for considerable variation in quality. Consequently, the product of any one manufacturer who has produced his goods for a number of years in such a careful manner as brings them into widespread use comes to be what is known as "standard." Among the prom-

inent standard goods of the day are the Nicholson files, manufactured by the Nicholson File Co., of Providence, R. I.

**A New Grate.**—A new grate has been under trial for nearly three years past by some of the most responsible users in Baltimore, and the Worthington National Grate Co. claims a number of features for its device superior to others previously on the market. The device for sliding is especially recommended. As a fuel saver the grate is of the highest merit, the price is low and the claims are said to be susceptible of proof. The manufacturer of the new grate-bar is the Worthington National Grate Co., of Baltimore, Md. (Equitable Building). Mr. Albert W. Add is president; Simon P. Schott, treasurer; Herman Knollenberg, secretary, and Henry McCoy, manager.

**Steel Forgings.**—Mr. H. F. J. Porter, general sales agent of the Bethlehem Iron Co., with headquarters at 1433 Marquette Building, Chicago, Ill., has during the past six months been located at the works in South Bethlehem, Pa., during the absence in Europe of Mr. R. W. Davenport, second vice-president. Mr. Porter is spending a few days at his office in Chicago, and reports that there is a decided improvement in the steel-forging business in the East, and that there are evidences that business will pick up rapidly in the West. He will return to the works and have his headquarters there during the winter. His Western office will be in charge of his assistant, Mr. Erwin Nelson, who will be glad to answer all correspondence and give information relating to steel forgings of all descriptions.

### TRADE LITERATURE.

**Coal Operators.**—The October report of the Anthracite Coal Operators' Association has been issued from the office of the secretary at 26 Cortlandt street, New York city.

**Rubber Goods.**—The new catalogue of the New Jersey Car Spring & Rubber Co., of Jersey City, N. J., has been issued. This company's establishment is one of the oldest in the country, and its new catalogue shows that it has kept pace with the times and produces a line of goods equal to the best. Inquiries for information are invited.

**Light Locomotives.**—The eighth edition of Messrs. H. K. Porter & Co.'s catalogue shows that their exclusive specialty is the manufacture of light locomotives—steam, compressed air and electric—in every variety of size and design, and for any practicable gauge of track, wide or narrow. Porter locomotives are used for a wide range of service, and are well adapted to severe requirements and difficult conditions for which ordinary locomotives are unsuitable or are too expensive. The designs illustrated and described in this catalogue comprise only the leading styles and sizes. There are many modifications of these, besides special designs for unusual requirements, and they are prepared to make new designs for peculiar cases, or to build to customers' specifications. Their standard designs and features of construction are the result of thirty years' experience in their exclusive specialty. The Porter shop force is well drilled, most of the workmen having been educated in their employ, and all of them take pride in sustaining the reputation of the shop for good work. The shop's location in the city of Pittsburgh, the great coal, steel and iron centre of America, affords a market where can be purchased at the lowest price and of the very best quality the various materials that are required for the manufacture and construction of locomotives. At different times during the past twenty-five years Porter & Co. have been compelled to enlarge facilities, and have now just completed practically new shops in all departments, equipped with the most modern tools and processes, and of double the former capacity. The annual capacity of the present new shops is 300 locomotives. Messrs. H. K. Porter & Co., Pittsburgh, Pa., will send catalogues on request.

### Visitors to Lincoln Park in Chicago

will be delighted with the souvenir book of this beautiful spot now being distributed by the Chicago, Milwaukee & St. Paul Railway Co. It is a magnificent publication of ninety-six pages, full to overflowing with delicious half-tone pictures of one of creation's most charming places of resort for citizens of the great republic.

No stranger visiting Chicago should be without a copy of the "Souvenir of Lincoln Park." It can only be procured by inclosing twenty-five (25) cents, in coin or postage stamps, to Geo. H. Heafford, general passenger agent, 410 Old Colony Building, Chicago, Ill.

## NASHVILLE, CHATTANOOGA & ST. LOUIS RAILWAY.

### ANNUAL REPORT FOR YEAR ENDING JUNE 30, 1897.

Nashville, Tenn., July 1, 1897.

To the Stockholders:

The Forty-sixth Annual Report of the President and Directors of the Nashville, Chattanooga & St. Louis Railway for the fiscal year ending June 30, 1897, is herewith submitted:

#### LENGTH OF ROAD.

	Miles.
Main Line.....	320.21
McMinnville .....	08.96
Fayetteville & Columbia.....	86.47
Huntsville & Gadsden.....	80.21
Lebanon .....	20.21
Tracy City.....	20.73
Sequatchie Valley.....	63.13
Centerville .....	65.94
Shelbyville .....	8.01
West Nashville.....	6.26
Rome Railroad.....	18.15
Western & Atlantic Railroad (Leased).....	136.82
Total .....	904.10

There have been some slight changes in the mileage of the Sequatchie Valley, Centreville and West Nashville branches, reducing the total mileage 1.52 miles.

#### FINANCIAL.

The bonded debt as per last report was.....	\$14,917,000 00
There have been redeemed—	
Tracy City Branch Six Per Cent. Bonds.....	20,000 00
	\$14,897,000 00

First Consolidated Mortgage Five Per Cent. Bonds have been issued as follows:

Rome Railroad.....	\$360,000 00
Swan Creek Extension.....	86,000 00
West Nashville Branch.....	54,000 00
	500,000 00

Leaving the Bonded Debt, this date.....	\$15,397,000 00
An increase of \$480,000.	

#### GENERAL RESULTS.

GROSS EARNINGS.	
Passenger .....	\$1,077,422 82
Freight .....	3,066,739 80
Mails .....	169,429 58
Express .....	65,884 16
Rents .....	136,642 08
	\$5,116,118 44

OPERATING EXPENSES.	
Maintenance of Way.....	\$619,550 39
Maintenance of Equipment.....	359,983 52
Conducting Transportation.....	2,064,023 37
General Expenses.....	161,114 27
	3,204,671 55

Net Earnings.....	\$1,911,446 89
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Deducting charges against income—

Interest .....	\$962,780 00
Taxes .....	125,639 75
Rental Western & Atlantic Railroad.....	420,012 00
	1,508,431 75

Surplus .....	\$403,015 14
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From which the usual quarterly dividends, \$400,000, have been paid.

Attention is called to Table No. 1, "Resources and Liabilities" (in pamphlet), which shows the financial condition of the company.

In the previous annual report the cost of the Rome Railroad was included in the item of "Bonds and Stocks," as at that time your company owned all the stock of the Rome Railroad Company; but in December last this road was purchased by your company and the stock canceled, and in the present report its cost is charged to "Purchase and Extension of Branch Roads."

The decrease in "Profit and Loss" is occasioned by charging off all bonds, stocks and accounts which have become of no value and have accumulated for the past twenty-five years.

#### COMPARISON.

The following statement shows the operations of the road for the year ending June 30, 1897, as compared with the previous year:

	For twelve months ending June 30, 1897.	For twelve months ending June 30, 1896.
Gross Earnings.....	\$5,116,118 44	\$5,074,625 45
Operating Expenses.....	3,204,671 55	3,164,350 36
Net Earnings.....	\$1,911,446 89	\$1,910,275 09
Interest .....	\$962,780 00	\$959,295 00
Taxes .....	125,639 75	119,174 76
Rental W. & Atl. R. R.....	420,012 00	420,012 00
	1,508,431 75	1,498,481 76
Surplus .....	\$403,015 14	\$411,793 33

The earnings and expenses per mile for the past four years have been:

	1893-94.	1894-95.	1895-96.	1896-97.
Gross Earnings.....	\$5,109 22	\$5,100 20	\$5,625 97	\$5,058 77
Operating Expenses.....	3,018 28	3,022 57	3,508 15	3,544 60
Net Earnings.....	\$2,090 94	\$2,086 63	\$2,117 82	\$2,114 17

The gross earnings per mile for the past ten years have been:

1887-88.....	\$4,756 39
1888-89.....	5,077 17
1889-90.....	5,445 49
1890-91.....	6,048 01
1891-92.....	6,609 00
1892-93.....	6,335 53
1893-94.....	5,109 22
1894-95.....	5,100 20
1895-96.....	5,625 97
1896-97.....	5,058 77

The proportion of expenses to receipts for the same period was:

	Per ct.
1887-88.....	57.25
1888-89.....	59.13
1889-90.....	60.27
1890-91.....	58.93
1891-92.....	67.09
1892-93.....	61.17
1893-94.....	59.09
1894-95.....	59.16
1895-96.....	62.35
1896-97.....	62.63



The train mileage for the year was:

Passenger .....	1,323,074
Freight .....	2,460,307
Mixed .....	331,021
Construction .....	113,907
Switching .....	846,654
Total .....	5,074,963

The earnings per train mile were:

Freight .....	\$1 35
Passenger .....	93

## EQUIPMENT.

## ENGINES.

Five new locomotives were purchased and one sold, making the total number 169, ninety-three of which were thoroughly overhauled during the year.

The engine mileage was 5,074,963, against 5,030,624 for the year preceding.

The cost per train mile has been:

	Cents.
For repairs .....	2.26
For engine and roundhouse men .....	6.71
For water supply .....	.70
For stores .....	.72
For fuel .....	6.96
Total .....	17.35

## CARS.

The passenger equipment consists of:

Passenger coaches .....	110
Baggage cars .....	35
Postal cars .....	10
Total .....	155

Freight equipment:

Box cars .....	2,287
Coal cars .....	1,144
Flat cars .....	513
Stock cars .....	104
Coke cars .....	206
Ore cars .....	50
Gravel cars .....	25
Caboose .....	177
Total .....	4,506

Other cars:

Pay car .....	1
Wrecking cars .....	3
Pile driver .....	1
Cook cars .....	2
Derrick cars .....	3
Tool cars .....	5
Air-brake car .....	1
Total .....	16

Grand total .....

Two coaches and one baggage car were purchased, and two baggage cars and one air-brake instruction car were built in the company's shops. Ninety-five coaches and baggage cars received general repairs. Fifty freight cars were built during the year, in lieu of others destroyed, and 2565 were thoroughly repaired.

## ROAD DEPARTMENT.

The total mileage, main and side tracks of the company, is as follows:

	Main line.	Side line.
Mileage owned .....	767.28	158.85
Mileage leased .....	136.82	55.47
Total .....	904.10	214.32

There have been laid on the Chattanooga Division 6.58 miles, Northwestern Division .20 mile, and Western & Atlantic Railroad 8.87 miles of new 68-pound steel rails. The old steel taken up has been laid on branches and side lines.

The following tables show the mileage in steel and iron:

## MILEAGE IN STEEL.

Division.	68 lbs.	60 lbs.	58 lbs.	56 lbs.	52 lbs.	40 lbs.	38 lbs.	Total.
Chattanooga .....	123.89		27.29					151.15
Northwestern .....	2.08		151.08		3.94			157.10
W. & A. R. R. ....	94.61			42.21				136.82
Lebanon .....			29.21					29.21
Shelbyville .....			.34	.22	1.00			1.56
McMinnville .....	.97	6.94	25.97		30.23			64.11
Fayetteville & Columbia .....			2.27		83.91			86.18
Huntsville & Gadsden .....			53.33		26.88			80.21
Tracy City .....	5.60		13.66		1.47			20.73
Sequatchie Valley .....			30.31		31.20			62.11
Centerville .....			20.04	8.55		12.71	8.31	49.61
West Nashville .....			3.96	.82				4.78
Rome R. R. ....				18.15				18.15
Total .....	227.12	6.94	358.06	69.95	178.63	12.71	8.31	861.72

## MILEAGE IN IRON.

Division.	56 lbs.	52 lbs.	50 lbs.	40 lbs.	Total.
Northwestern .....		11.96			11.96
Shelbyville .....	6.45				6.45
McMinnville .....			4.85		4.85
Fayetteville & Columbia .....			.26	.03	.29
Sequatchie Valley .....			1.02		1.02
Centerville .....	3.31			8.25	11.56
West Nashville .....			1.48		1.48
Swan Creek Extension .....	.21			4.56	4.77
Total .....	9.97	11.96	7.01	12.84	42.38

## ROADWAY.

There were 329,999 cross-ties and 306 sets of switch ties renewed, 11.38 miles of new side track constructed, and 46,100 cubic yards of ballast put in the track.

A large amount of work has been done in lining the shafts of Cumberland mountain tunnel and widening it for larger cars. The tunnel under Broad street in Nashville has been enlarged and a second track constructed.

## BRIDGES AND TRESTLES.

A new plate girder over Norman's creek has been completed. The floor system of the bridge over North Stones river has been strengthened, and a new plate girder over Norris creek, on the Columbia Division, has been built. Contracts have been let for the construction of two 50-foot plate girders over Crow creek, near Stevenson. Contract has also been let for turning the draw at Bridgeport bridge by steam. The piling in trestles between Dunlap and Pikeville has been replaced by cedar piles.

## BUILDINGS.

At Chattanooga the remodeling of the waiting-rooms at the Union Depot has been completed and a commodious dining-room provided. The Seaboard Air Line Freight Terminal

Building in Atlanta has been completed; and, under an agreement, this company will use two-thirds of the freight house and one-half of the office buildings in consideration of the delivery at the depot over our line of the Seaboard Air Line cars. The old freight sheds formerly occupied by this company in Atlanta have been abandoned and will be torn down. A depot has been built at Ponds Switch; set of section-houses at Box Station; pump-house at Resaca, and section-houses at No. 15 on the W. & A. R. R.

## HIGH WATER OF 1897.

On Saturday, March 13, a general rain fell on the watersheds of Cumberland and Tennessee rivers. The latter rose rapidly, getting about ten inches over the rail at several points on the Sequatchie Valley Branch, causing the highest rise at Johnsonville heretofore recorded. The highest point was reached March 24, the gauge at Johnsonville reading forty-eight feet, which is ten inches higher than the rise of 1882. Five miles of the track between Johnsonville and Camden were submerged; at some points as much as eight feet. Trains were abandoned on March 20, and did not resume running until March 31. No damage was done except the interruption of traffic.

## IMPROVEMENTS AT NASHVILLE.

In anticipation of the increased traffic on account of the Tennessee Centennial, extensive improvements have been made at Nashville. The tracks between Broad and Cedar streets have been relocated and renewed. The depot has been remodeled and a train shed erected adjoining it. A system of block signals between the Union Depot and the New Shops, operated by compressed air, has been installed, and additional interlocking towers built at Bostick, Park, Clinton and Cedar streets. All switches between the Union Depot and the New Shops are now controlled from these towers, and a double-track system with cross-overs is in operation.

## WESTERN &amp; ATLANTIC RAILROAD.

The operations of the above railroad for the fiscal year ending June 30, 1897, were:

## RECEIPTS.

Freight .....	\$1,203,158 62
Passenger .....	244,340 88
Mail .....	56,047 97
Express .....	20,443 44
Other sources .....	50,332 31
Total .....	\$1,574,323 22

## OPERATING EXPENSES.

Maintenance of Way .....	\$118,585 15
Maintenance of Equipment .....	101,271 64
Conducting Transportation .....	741,434 98
General Expenses .....	28,623 38
Total .....	989,915 15

Net Earnings .....	\$584,408 07
Rental .....	\$420,012 00
Interest .....	36,000 00
Taxes .....	9,036 14
Total .....	465,048 14

Surplus .....

## STATISTICS.

Total number of passengers carried .....	274,575
Amount received from each passenger .....	.87742
Total number of passengers carried one mile .....	10,939,400
Average receipts per passenger per mile .....	.02202
Total tons of freight carried .....	1,262,247
Average amount received on each ton carried .....	.95319
Total tons of freight carried one mile .....	143,003,871
Average receipts per ton per mile .....	.00841

## MEMPHIS &amp; PADUCAH DIVISION.

The roads formerly known as the Paducah, Tennessee & Alabama Railroad and the Tennessee Midland Railway, extending from Memphis to Paducah, 229.59 miles, with a branch from Perryville to Lexington, 24.15 miles, making a total of 253.74 miles, have been operated by this company since January 1, 1896, eighteen months, with the following results:

Gross earnings .....	\$774,135 02
Total expenses .....	\$793,420 62
Less improvements paid by Lessor .....	251,200 63
Total .....	\$420,514 77

Net earnings .....	\$231,915 03
Taxes .....	\$31,603 27
Rental .....	236,688 04
Total .....	268,291 31

Deficit .....

The accounts of this division are not included in the General Results and Statements. The deficit was occasioned by loss of business and damage to track by high waters in March last.

During this period, eighteen months, the revenue derived by the Main Line from business received from and delivered to these roads amounted to \$346,937.78.

## STATEMENTS.

The following statements, showing the business of the road in detail, are respectfully submitted herewith. [They will be found in the pamphlet report.]

- No. 1.—Resources and Liabilities.
- No. 2.—Amount and Maturity of Mortgage Debt.
- No. 3.—Statement of Operations.
- No. 4.—Earnings, Expenses and Net, by Months.
- No. 5.—Revenue Earned by each Division.
- No. 6.—Revenue Originating on each Division.
- No. 7.—Passenger Earnings.
- No. 8.—Passenger Statistics.
- No. 9.—Freight Earnings by Months.
- No. 10 and No. 11.—Local and Through Freight Earnings.
- No. 12.—Freight Forwarded.
- No. 13.—Tonnage Statistics.
- No. 14 and No. 15.—Classification of Freight Forwarded and Received.
- No. 16.—Freight Statistics.
- No. 17.—Mileage of Cars and Cost of Repairs.

The Board of Directors desire to acknowledge their indebtedness for the faithful and intelligent services rendered by officers and employees.

J. W. THOMAS,  
President.



## FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

No advertisements but those of a financial character will be accepted for this page.

## New Corporations.

Messrs. White & Weskloski will open a banking-house at Cordele, Ga., about November 1, with \$50,000 capital.

The Farmers and Merchants' Savings Bank has been formed at Troy, Mo., with \$10,000 capital, by J. W. Welch and others.

It is reported that arrangements are being made to open a bank at Murray, Ky., and stock subscriptions are now being obtained.

The Wideman Investment Co. has been organized at St. Joseph, Mo., with \$60,000 capital, by J. Donovan, J. Henry King, Jr., and others.

It is reported that arrangements are being made to open a bank at Stillmore, Ga., with \$25,000 capital. It is to be called the Bank of Stillmore.

The Carolina Loan & Trust Co. has been organized at Greenville, S. C., by Frank Hammond, Thomas G. Ward and others, with \$50,000 capital.

The Citizens' Bank of Rome, Ga., has been formed, with \$50,000 capital, by J. L. Bass, L. A. Dean and others. It is expected to open for business in a few weeks.

The Hamilton Savings Bank has been incorporated to do business at Hamilton, Mo. The capital stock is \$40,000. Robert S. Cash and Donald Booth are among those interested.

The McDonald County Bank has been incorporated at Pineville, Mo., with \$10,000 capital. A. V. Manning, of Pineville, and others are interested. The president is Hugh Dabbs; vice-president, Lyman W. White, and cashier, A. V. Manning.

## New Securities.

The city of Jackson, Miss., will vote upon the question of issuing \$25,000 in bonds for sewerage purposes on November 17.

The town of Charleston, Miss., has decided to issue \$1500 in bonds for improvements. The town clerk may be addressed.

The town of Victoria, Texas, is considering an issue of bonds for water-works purposes. The mayor will give further information.

The city of Waycross, Ga., is considering the issue of \$50,000 in bonds for the construction of sewerage. The mayor may be addressed.

It is reported that the town of Washington, Ga., will ask the legislature for permission to issue \$32,000 in bonds for water-works purposes.

The town of Caldwell, W. Va., it is reported, is considering the issue of \$15,000 in bonds for improvements. The town clerk may be addressed.

The town of Claxton, Ga., has ordered an election to decide upon the issue of bonds for school purposes. The town clerk may be addressed.

The recent issue of \$50,000 in 5 per cent. bonds made by Montgomery county, Alabama, has been sold to Farson, Leach & Co., of Chicago, at 107.07.

L. Harrill, mayor, will receive bids until October 29 for the proposed issue of \$52,000 worth of 6 per cent. bonds to be made by Statesville, N. C.

The finance committee of the Atlanta city council has adopted resolutions favoring the proposed issue of \$200,000

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in bonds. The mayor will give further information.

E. K. Proctor, Jr., mayor, will receive bids until November 1 at Lumberton, N. C., for \$11,000 in improvement bonds, which are to bear 5 per cent. interest.

It is reported that the city of Huntsville, Ala., may issue \$20,000 in bonds in addition to the amount already authorized for street improvements. The mayor will give further information.

## Dividends and Interest.

The Forest Land Co. of Little Rock, Ark., has declared a dividend of twenty cents per share.

The New Orleans Water Works Co. has declared a semi-annual dividend of \$2.50 per share.

The National Marine Bank of Baltimore has declared its semi-annual dividend of 3 per cent.

The Donaldsonville Bridge Co. of Donaldsonville, La., has declared a quarterly dividend of \$4.40 per share.

The Border State Perpetual Building Association has declared a semi-annual dividend of 2½ per cent. at Baltimore.

The St. Charles Street Railroad Co. of New Orleans, La., has declared a dividend of 1½ per cent. for the last quarter.

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DEALERS IN Southern Investment Securities,

239 East German Street, Baltimore, Md.

OUR FACILITIES ARE UNEQUALLED.

## Financial Notes.

The German Fire Insurance Co. of Charleston, S. C., has elected G. Jahnz, president; E. Hesse, vice-president, and Q. A. Kroeg, secretary and treasurer.

It is reported that negotiations are now under way in Savannah, Ga., with the view of consolidating the Merchants' National Bank and the National Bank of Savannah. The plan suggested, it is stated, is to form a bank with \$500,000 capital.

## From Reading to the Chesapeake.

It is reported that a number of Northern capitalists have recently visited Baltimore in the interest of a railroad line to be built from a connection with the Philadelphia & Reading at Reading, Pa., to the Chesapeake bay at some point where deep water can be obtained. It is stated that the road is to be built to convey iron ore and coal from Pennsylvania to the tidewater terminus, where a manufacturing town is to be located. The process utilized by Thomas A. Edison for reduction of iron ore by electricity will be utilized on a large scale by the company, it is reported, and a plant erected for this purpose.

If you wish to keep posted on the progress of the South, read the Manufacturers' Record. Price \$4.00 a year.

JOHN L. WILLIAMS & SONS,  
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Dealers in RICHMOND, VA.  
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MUNICIPAL BONDS A SPECIALTY.  
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## TO CONTRACTORS.

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This company is a Legal Depository for funds in the hands of Trustees or Administrators, and allows interest on same pending distribution. Authorized to act as Executor, Administrator, Guardian, Receiver or Trustee.

ACTS as Trustee of Mortgages of Corporations and accepts Transfer Agency and Registry of Stocks.  
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Vaults supplied for Storage of Silver Chests, etc.

JOHN GILL, of R., President.

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J. WILLCOX BROWN, PRESIDENT.

LLOYD L. JACKSON, FIRST VICE-PRES.

HENRY J. BOWDOIN, SECOND VICE-PRES.

J. BERNARD SCOTT, Secretary and Treasurer.

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BIG UNION  
MINING Co.

Owens and is now opening up rich gold mines in the famous Leadville Gold Belt of Colorado. Its mines lie on the same contact vein with the most noted of the great Leadville mines. One of these, the "Little Johnny," is the greatest gold mine in Colorado and perhaps in the world. Its present output is about \$300,000 per month, and it is now paying monthly dividends of \$100,000 to \$200,000. The officers and stockholders of the company are not speculators but are well-known conservative business men. Here are some of them:

## OFFICERS:

R. E. LYON, President.  
STEPHEN H. EMMENS, Vice-President.  
H. B. TILDEN, Treasurer.

## DIRECTORS:

B. L. Duke, the great tobacco manufacturer of Durham, N. C.  
W. T. O'Brien, of the American Tobacco Co., Durham, N. C.  
Stephen H. Emmens, Pres. of the Mining and Industrial Exchange, New York City.  
R. E. Lyon, of Baltimore, Md.  
L. D. Heartt, Cashier First National Bank, Durham, N. C.  
H. B. Tilden, of Baltimore, Md.

The stock of this company has been listed on the New York Mining and Industrial Exchange. The office of the company is at 849 Equitable Building, Baltimore, Md.

The treasury stock now being offered affords an investment opportunity that is well worth looking into.

The company does not care to sell in small lots, but will be glad to confer with investors with reference to the purchase of large blocks. The officers feel confident that the facts to be presented concerning the company's property will appeal to the best informed and most conservative and cautious investor.



For "Classified Index" see pages 3, 5 and 7.

Ads. marked thus \* appear every other week.  
Ads. marked thus † appear in first issue of each month.  
Ads. marked thus ‡ not in this issue.